

# **Heterosexual Penile-Anal Intercourse and HIV in Five Sub-Saharan African countries**

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## Acronyms

<b>ACASI</b>	Audio Computer-Assisted Self-Interviewing
<b>AI</b>	Anal Intercourse
<b>AIDS</b>	Acquired immune deficiency syndrome
<b>CAQDA</b>	Computer assisted qualitative data analysis
<b>DHS</b>	Demographic and Health Surveys
<b>DoH</b>	Department of Health
<b>DTHF</b>	Desmond Tutu HIV Foundation
<b>FGD</b>	Focus Group Discussion
<b>FTFI</b>	Face to face interview
<b>HIV</b>	Human immunodeficiency virus
<b>HPAI</b>	Heterosexual penile-anal intercourse
<b>HPV</b>	Human Papilloma Virus
<b>IDI</b>	In-depth interview
<b>MSM</b>	Men who have sex with men
<b>MTN</b>	Microbicide Trials Network
<b>NIMH</b>	National Institute of Mental Health (US Government Funded)
<b>PAI</b>	Penile-anal intercourse
<b>PrEP</b>	Pre-Exposure Prophylaxis
<b>PVI</b>	Penile-vaginal intercourse
<b>QC</b>	Quality control
<b>RD</b>	Rectal douching
<b>RTI</b>	RTI International
<b>STI</b>	Sexually transmitted infection
<b>VOICE (MTN-003)</b>	The Vaginal and Oral Interventions to Control the Epidemic
<b>VOICE-D (MTN-003D)</b>	An Exploratory Study of Potential Sources of Efficacy Dilution in the VOICE Trial
<b>UCT</b>	University of Cape Town
<b>UNAIDS</b>	Joint United Nations Programme on HIV/AIDS
<b>WHO</b>	World Health Organisation
<b>ZD</b>	Zoe Duby

## Acknowledgements

First and foremost, I must thank my mother, Fiona Duby, who throughout my life has been a constant source of inspiration, and a deep well of unconditional love. From my early days as baby accompanying my mother to her work in family planning clinics in Swaziland, with a diaphragm as a teething ring and coloured condoms for birthday balloons, I was off to a good start. This was followed by a childhood in Bangladesh where my Barbies had hairbands made of condom rings, and I entertained myself at Mum's office by inserting intra-uterine devices into plastic models. Teenage-years in Nigeria were also formative; my brother and I occasionally took Mum to our favourite Lagos drinking hole, a rickety brothel-bar on stilts over the lagoon. It seemed I was destined to follow in my mother's footsteps into the world of sexual and reproductive health.

I have always been drawn to topics that are tabooed and silenced, especially those for which the silences exacerbate the associated health risks. It was as an intern in Nairobi, that I first stumbled upon the topic of heterosexual penile-anal intercourse and HIV. While conducting a literature review on men who have sex with men in Kenya, I came across anecdotal reports of young girls in coastal-Kenya practising anal sex to maintain their virginity. This sparked my interest, and after delving further I noticed a glaring gap in the literature. Thus I arrived at UCT with a topic in hand for my Masters dissertation. After completing my Masters I felt that I had only begun to scrape the surface of this complex and neglected topic, which has potentially critical implications for HIV transmission in Africa.

Having decided that it was necessary to pursue this topic as a PhD, I was pointed in the direction of Chris Colvin, a medical anthropologist at UCT's School of Public Health. My gratitude goes to Chris for enduring five years of reading about a topic I'm sure he never imagined having to think about in such depth. Chris has helped me to engage critically with my study topic, giving me the freedom to pursue the research in various directions, while supporting my learning through the process, championing my cause, and guiding me through the requirements of academic study at this level.

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Gail Bekker for her support, and for connecting me to the Microbicide Trial Network. It is through her incomparable networking and connections that I became involved in the VOICE-D study, which formed a large part of my data. My gratitude goes to Ariane van der Straten, Barbara Mensch and the rest of the VOICE-D team for their permission and support in using VOICE-D data as part of my doctoral thesis, and for their valuable input in honing the three VOICE-D papers. During my involvement in VOICE-D, I have grown as a researcher and developed invaluable skills and expertise that will stand me in good stead for the rest of my research career.

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This doctoral project has been a long, but fascinating journey. There are many others not mentioned by name here – friends, family, and colleagues – you know who you are – who have played a part in this journey over the past five years, and to whom I extend my gratitude. My hope is that I have contributed something useful to the domain of HIV research, enriching our understanding of sexual behaviour and HIV transmission in sub-Saharan Africa. Perhaps now I can pursue research topics that make for less startling dinner table conversation... perhaps not.

*Zoe Duby, Cape Town, February 2015*

## INCLUSION OF PAPERS IN THE THESIS

This doctoral thesis includes four papers written for publication, as per provision 6.7 in the General Rules for the Degree of Doctor of Philosophy (PhD) of the University of Cape Town, and with approval in 2015 from the University Doctoral Degrees Board. The manuscripts are currently in various stages of the publication process, as detailed at the beginning of each chapter. The data collection, data analysis and drafting of these papers were carried out during the period of doctoral degree registration. I was the lead author on each manuscript, under the supervision of her doctoral academic supervisor. I have given further details of my specific contributions and the role I played in each study in Appendix XX. All co-authors reviewed and approved the submitted manuscripts, and gave permission for their inclusion in this doctoral thesis.

In addition to the four papers written for journal publication that are included as self-contained chapters in this theses, three findings chapters take the form of monographs. The monograph chapters have been written in a similar style to the papers; the rationale for this was to enable consistent formatting across the findings chapters, and so that the methods chapter could be more general, with study specific methods presented in each chapter.

The decision to include publications in this thesis was influenced by various factors. Firstly having drawn data from multiple studies and data sets, all with the focus of heterosexual penile-anal intercourse in sub-Saharan Africa, it made sense that the findings from each study would form a discrete paper. Additionally the method of including publications in this thesis enables me to contribute to research in the field at the earliest possible opportunity, and allows an engaged approach to dissemination of the findings. The field of HIV prevention is fast moving, particularly in the realm of biomedical prevention products such as microbicides, and the publication approach enables me to make progressive contributions to the field during the course of the project, without having to wait for the entire thesis to be completed, by which time some of the findings may be out of date and no longer as useful as they might have been. By presenting my research findings at conferences, and by publishing articles in peer-reviewed journals, my findings have been more immediate and accessible to other researchers in the field. Additionally, working with co-authors who are experienced in the field, has strengthened my own work by engaging in peer review as part of the writing and publication process. Throughout the course of the thesis I have been able to participate in a multi-disciplinary international team, and have learned from the

experience and mentorship of my co-authors, which has served to strengthen the value of the research findings and the quality of my writing. The method of including publications in my PhD thesis therefore has enabled me to make a more significant contribution to the field of HIV prevention than the thesis alone.

This research project has thus far resulted in the following articles:

### Articles already published in peer-reviewed journals

1. **Zoe Duby** & Christopher J. Colvin (2014). ***Conceptualizations of Heterosexual Anal Sex and HIV Risk in Five East African Communities***. *The Journal of Sex Research*, 51 (8).

### Articles submitted to peer reviewed journals, currently under review

1. **Zoe Duby**, Miriam Hartmann, Elizabeth T. Montgomery, Christopher J. Colvin, Barbara Mensch and Ariane van der Straten. ***Condoms, lubricants and rectal cleansing: Practices associated with Heterosexual Penile-Anal Intercourse amongst participants in an HIV prevention trial in South Africa, Uganda and Zimbabwe***
  - Submitted to *AIDS & Behavior*
2. **Zoe Duby**, Miriam Hartmann, Imelda Mahaka, Otilia Munaiwa, Josephine Nabukeera, Nozipho Vilakazi, Funeka Mthembu, Christopher Colvin, Barbara Mensch, Ariane van der Straten. ***Lost in translation: Language, Terminology and Understanding of Penile-Anal Intercourse in an HIV prevention Trial in South Africa, Uganda and Zimbabwe***
  - Submitted to *The Journal of Sex Research*
3. **Zoe Duby**, Miriam Hartmann, Elizabeth T. Montgomery, Christopher J. Colvin, Barbara Mensch and Ariane van der Straten. ***Sexual Scripting of Heterosexual Penile-Anal Intercourse amongst participants in an HIV prevention trial in South Africa, Uganda and Zimbabwe***
  - Submitted to *Culture, Health and Sexuality*

# ABSTRACT

The HIV epidemic in sub-Saharan Africa is understood to be primarily 'sexually transmitted'. The majority of HIV prevention efforts in the region have focused on 'heterosexual sex' as the key transmission vector, without defining what 'heterosexual sex' refers to. Penile-anal intercourse (PAI) has the highest per act risk of HIV acquisition sexually and potentially accounts for a large proportion of HIV infection. Inclusion of PAI in HIV programming has typically only been in reference to men who have sex with men. Despite evidence suggesting that heterosexual PAI is common practice in sub-Saharan Africa, and is likely to be a significant contributor to HIV transmission, it has been largely excluded from HIV interventions. Greater understanding of sexual decision-making and risk-taking related to heterosexual PAI would enable evidence-based HIV intervention. This thesis presents data on conceptualisations and perceptions of heterosexual PAI and associated practices in sub-Saharan Africa, language and discourse pertaining to PAI, as well as challenges in conducting research on it. Qualitative data were gathered in five sub-Saharan African countries between 2010 and 2014. These findings demonstrate that heterosexual PAI is practiced in sub-Saharan Africa for a variety of reasons, some of which have implications for HIV transmission. Many of the factors that influence sexual decision-making and risk-taking related to heterosexual PAI are specific to this sexual behaviour. In addition, the relationship contexts in which heterosexual PAI takes place, gendered power dynamics, sexual agency and 'sexual scripts' framing PAI behaviour, are distinct from those for penile-vaginal intercourse. HIV transmission risks associated with PAI are exacerbated by taboos, social stigmatisation and sexual communication norms, impeding effective communication and safe sex negotiation, limiting individuals' ability to make informed decisions, and impacting on the reporting of PAI in research and clinical settings. Drawing on socio-behavioural theories to guide the data analysis, I developed theoretical models to explain and understand heterosexual PAI practice. The findings presented in this thesis make a unique contribution to the field, being the first in-depth description and analysis of heterosexual PAI behaviour and related practices in sub-Saharan Africa. This research highlights the importance of paying careful attention to the role of heterosexual PAI in HIV transmission in Africa.

# SYNOPSIS

The focus of this thesis is heterosexual penile-anal intercourse (PAI) in sub-Saharan Africa, practices relating to it, discourse surrounding it, and its potential role in HIV transmission in the region. The thesis presents qualitative data pertaining to the social, cultural and structural factors that influence sexual behaviour, sexual decision-making, and sexual risk-taking in relation to PAI. Data is also presented relating to the relationship contexts and gendered power dynamics in which heterosexual PAI occurs, as well as the social and cultural contexts in which it is embedded.

This body of work is grounded in primary data gathered in five sub-Saharan African countries (Kenya, South Africa, Tanzania, Uganda and Zimbabwe) over a four-year period from 2010 and 2014. The analysis and interpretation of these data were guided by a range of social and behavioural theories; these theories also contributed to the development of theoretical models with which I illustrate the key findings. In order to contextualise the primary data, I reference and discuss the relevant literature, and one of the chapters presents a discursive review of definitions and terminology used in sexual behaviour research.

**Chapter 1** introduces the background and context of the HIV epidemic in sub-Saharan Africa, highlighting heterosexual PAI as an under-researched area, despite PAI being a high-risk sexual behaviour. In this chapter I introduce various aspects of the topic of heterosexual PAI, describing what we already know about it: the physiological and biological risks, the social context of taboo and social stigmatisation surrounding it, and the existence of related practices such as condom and lubricant use, and rectal cleansing. In this section I also introduce other aspects of PAI behaviour that are covered in this thesis, namely issues pertaining to language, terminology, translation and sexual behaviour reporting. I stress the importance of this research and provide a rationale for the overall project, highlighting the knowledge gaps that this research fills, and outlining the main research objectives and questions.

Having set the context and background, I move onto **Chapter 2**, in which these background issues come to life. The second chapter is a narrative case study drawn from a series of in-depth interviews conducted with one woman who engages in heterosexual PAI. I chose to leave the personal details of the individual vague by not naming or specifying the research

setting; the woman I named Patience could be from any of the countries in which data was collected. Patience's story serves to illustrate the real life setting in which heterosexual PAI takes place in sub-Saharan Africa, highlighting many of the issues that are raised in the findings presented in the chapters that follow.

In **Chapter 3** I give an overview of the various research methods that were used to gather all the data presented in the thesis. Because each findings chapter that takes the form of a journal manuscript, already has its own methods section, I do not go in to depth about the particular methods used in each study, but rather give an overview of the types of methods used, and the rationale for using these methods. I also provide an explanation of the processes of qualitative data analysis that I used. In this chapter I also lay out the main sociological and behavioural theories that informed the research design and analysis.

**Chapter 4** is a discursive literature review and synthesis, which presents the findings from a review that I conducted of global sexual behaviour research, combined with a refined review of 37 research papers on sexual behaviour studies conducted in Africa. This chapter examines how sexual behaviour research has been based on heteronormative and penile-vaginal penetrative assumptions. I also discuss issues pertaining to the definition of terms such as 'sex', 'intercourse', 'virginity' and 'abstinence', and specifically how PAI has been situated (included in or excluded from) in these definitions. In addition, I examine the ways in which these definitions have impacted on individuals' behaviour, sexual decision-making, sexual risk-taking, as well as on the field of sexual behaviour research and on HIV programming.

In **Chapter 5** I present data from research I conducted in Masiphumelele community in Cape Town, South Africa. The data comes from focus group discussions with 23 young men and women aged between 18 to 22 years old. This chapter focuses on participants' experiences and perceptions with respect to PAI, gendered power dynamics in sexual relationships, sexual scripts, and conceptualisations and definitions of virginity. This chapter provides a snap-shot of sexual norms in one community in sub-Saharan Africa, lending support to the later discussion of sexual scripting and gendered power dynamics, and also showing the real-life context of issues pertaining to the definition of sex and virginity as discussed in the review in Chapter 4.

**Chapter 6** presents data from research conducted during 2010 in five communities in three East African countries: two communities in Kenya, two in Uganda, and one in Tanzania. This research formed part of a community assessment guiding the design of an HIV programme's activities in the region. This chapter examines conceptualisations of heterosexual PAI practice in these communities drawn from a large and diverse sample population. The findings from this research touch upon many of the topics that are discussed in more depth in Chapters 7, 8 and 9.

The seventh, eighth and ninth chapters present data from the VOICE-D study, a follow-up study to the VOICE clinical HIV prevention trial in South Africa, Uganda and Zimbabwe. The Vaginal and Oral Interventions to Control the Epidemic (VOICE) Study (MTN-003), was a Phase 2B placebo-controlled trial designed to assess the safety and efficacy of daily dose oral and vaginal formulations of tenofovir and oral Truvada, in preventing HIV acquisition. Each of these chapters addresses a different aspect of heterosexual PAI in the study communities. **Chapter 7** focuses on issues pertaining to language and terminology for PAI and sexual communication norms more broadly, in the local site communities. The chapter also examines linguistic taboos, and challenges in cross-cultural translation in the research setting. The findings presented in this chapter relate to how these issues impact on the comprehension of questions in sexual behaviour research, and on sexual behaviour reporting by research participants. **Chapter 8** presents data on the relationship contexts and gendered power dynamics in which PAI takes place in the study communities. In this chapter the sexual scripting theory is used as a framework with which to analyse and discuss the findings. **Chapter 9** presents data from VOICE-D pertaining to associated practices related to PAI, such as condom use, lubricant use and rectal cleansing. In addition this chapter presents data on rectal use of the vaginal study gel by participants.

The final discussion chapter, **Chapter 10**, synthesises all the findings from the previous chapters, laying out the common themes across the findings, and proposing a series of theoretical models with which to interpret and explain the key findings. In addition, this chapter includes a discussion of the limitations of the research overall, and finally makes recommendations for further research and for how some of these findings might inform HIV prevention programming and policy.

# CHAPTER 1

## Introduction

---

This introductory chapter first lays out details of the background context of the research. A brief description is provided of the HIV epidemic in sub-Saharan Africa, and specifically the epidemic amongst women in the region, and some of the factors that impact on women's vulnerability. The chapter proceeds with an introduction of the discourse on HIV transmission in sub-Saharan Africa, and the conceptualisation of the epidemic as 'heterosexually transmitted'. The topic of heterosexual penile-anal intercourse (PAI) is then introduced, first with an examination of what is already known: the physiological and biological risks of PAI; the socio-cultural taboos around the behaviour; and the existence of associated practices such as condom use, lubricant use and rectal cleansing. A background to the exclusion of heterosexual PAI from health service provision and HIV programming is also provided. Also touched upon are other issues related to the topic of PAI that are examined in further depth in the thesis. The first relating to issues pertaining to language, terminology, translation and cultural norms around sexual communication. The second links to this, in discussing issues inherent in the reporting of sexual behaviour in the research setting. At the end of this chapter I lay out the gaps that exist in our knowledge about PAI, the rationale for conducting this research and the specific aims of this research project.

# BACKGROUND

## HIV in sub-Saharan Africa

At the end of 2011, the Joint United Nations Programme on HIV/AIDS (UNAIDS) estimated that there were 34 million people living with HIV worldwide. Amongst adults, categorised as being between the ages of 15 and 49 years old, an estimated 0.8% were living with HIV globally. In sub-Saharan Africa it was estimated that a total of 4.9% of the adult population were living with HIV. The region of sub-Saharan Africa bears the brunt of the HIV epidemic worldwide, accounting for 69% of the world's total population living with HIV. Despite increased efforts to reduce the transmission of HIV, estimates show that the number of people living with HIV in sub-Saharan Africa continues to grow: 22.5 million in 2009, 23.5 million in 2012, to 24.7 million in 2014 (UNAIDS, 2014).

The global HIV epidemic disproportionately affects females, and 76% of all women living with HIV in the world reside in sub-Saharan Africa. In 2012, 59% of all people living with HIV in sub-Saharan Africa were female. Adolescent girls and young women in sub-Saharan Africa are more likely to be living with HIV than males of the same age; 13 women become infected for every 10 men (UNAIDS, 2011). Women's increased vulnerability to HIV infection is based on four main risk factors: 1) biology, 2) behaviour, 3) structure, and 4) socio-culture.

The increased biological risk of contracting HIV for women has its foundations in several factors, some of which apply for both penile-vaginal intercourse and penile-anal intercourse (Ramjee & Daniels, 2013). Firstly, being the receptive (penetrated) partner in either vaginal or anal intercourse means that a woman is at greater risk than the insertive (penetrating) male partner due to the greater mucosal surface area that can be exposed to the HI virus in an infected partner's body fluids for a longer period of time during penetrative intercourse. Secondly, there is the likelihood that the receptive partner's vagina or rectum may be subject to tissue injury and mucosal inflammation. In addition to this, although data on women using oral contraceptive methods does not suggest an increased risk of HIV, data relating to women using progestin-only injectable contraception is currently inconclusive with regards to an increased biological vulnerability to HIV acquisition infection (Chersich & Rees, 2008; Polis et al., 2014; Ramjee & Daniels, 2013).

Ostrach & Singer (2012) point out that despite the importance of these anatomical, biochemical and hormonal factors that increase women’s vulnerability to HIV infection, the biological risks are only one part of the picture. Although the biological factors discussed above facilitate HIV transmission to women, gender inequities and other socio-cultural, environmental, structural, political, economic and behavioural factors exacerbate women’s increased biological vulnerability (Chersich & Rees, 2008). Ostrach & Singer use the term ‘biopolitical’ to refer to the intersections between biology and social dynamics. They suggest that biopolitical factors that impact on the ‘multifactorial vulnerability’ of women include gender relations, sexual power dynamics, the feminisation of poverty, gender-based violence and the economic vulnerability of women.

## Research setting

The primary data presented in this thesis comes from ten communities in five countries in the sub-Saharan Africa region, all of which are hard hit by the HIV epidemic. Chapter 5 presents data from a peri-urban settlement on the outskirts of Cape Town, South Africa. Chapter 6 presents data from five communities in Kenya, Uganda and Tanzania. Chapters 7, 8 and 9 present data from four communities in South Africa, Uganda and Zimbabwe. The table below shows HIV prevalence figures for these five countries as outlined by UNAIDS reporting in 2013.

**Table 1: Countries covered in this research (Data from UNAIDS, 2013)**

	Kenya	South Africa	Tanzania	Uganda	Zimbabwe
<b>Percentage of adults (15-49) living with HIV</b>	6.0 %	19.1 %	5.0 %	7.4 %	15.0 %
<b>Percentage of females aged 15-24 living with HIV</b>	2.8 %	13.1 %	2.2 %	4.2 %	6.6 %
<b>Percentage of males aged 15-24 living with HIV</b>	1.7 %	4.0 %	1.4 %	2.4 %	4.1 %
<b>Women's share of population age 15+ living with HIV (%)</b>	58 %	60 %	60 %	58 %	59 %

## **Role of Heterosexual Penile-Anal Intercourse in African HIV epidemic**

The sections above have outlined various factors that have been shown to contribute to HIV transmission in sub-Saharan Africa. The African 'heterosexual HIV epidemic' has been framed as primarily driven by penile-vaginal sex, with insufficient attention paid to alternative explanations and other sexual transmission vectors (Fonck et al., 2001; Undie et al., 2007). The HIV epidemic in Africa is commonly understood to be primarily sexually transmitted, and most generalised HIV prevention efforts have focused on 'heterosexual sex' as the key transmission vector (Ramjee & Daniels. 2013), notably, without defining what the term 'heterosexual sex' refers to. The most recent UNAIDS report (2012) on the state of the global epidemic speaks of the 'sexual transmission of HIV' but does not define what 'sex' is (see Chapter 4). The only explicit references to anal sex in the report are for men who have sex with men (MSM).

The extent to which HIV is transmitted through heterosexual penile-anal intercourse (PAI) in the region remains unknown. While heterosexual PAI is not widely reported, there is concern that it may account for a significant proportion of HIV transmission to women in sub-Saharan Africa, and that the focus on women contracting HIV through penile-vaginal intercourse (PVI) may obscure risk via PAI (Halperin, 1999; Misegades et al., 2001; Roye et al., 2010). Although literature on anal sex in Africa is increasing (see Table 5 on page 124), there is still much that needs to be explored and the prevalence of PAI among heterosexual men and women in the region is not well established (Kalichman, 2009). In addition to the need for accurate prevalence estimates, gaining a deeper understanding of the ways in which anal sex is conceptualised, defined and enacted in African contexts, the factors that motivate people engage in it, as well as how it is understood in relation to HIV transmission, could have a great impact on HIV prevention on the continent.

### **Physiology of Penile-Anal Intercourse**

Condomless penile-anal intercourse (PAI), for both men and women, is a high-risk sexual activity for HIV transmission. Research on the sexual transmission of human immunodeficiency virus (HIV) consistently finds condomless anal intercourse to be a highly predictive risk factor for sero-conversion (Baggaley et al., 2010). Receptive PAI has been shown to be a predictor for HIV among women, with higher HIV prevalence among women who report PAI than those who do not (Karim & Ramjee, 1998; Gross et al., 2000).

Condomless receptive PAI between sero-discordant partners is the sexual behaviour with the highest per act risk of HIV acquisition for women, estimated to be somewhere between 10–20 times more risky than condomless receptive penile-vaginal intercourse (PVI) (Baggaley et al., 2010; Boily et al., 2009; McGowan, 2013; Varghese et al., 2002).

Due to the physiological and biochemical nature of the rectum, condomless penile-anal penetrative sexual intercourse is the most efficient sexual vector for the transmission of HIV and other STIs (Leichtner et al., 2007; McGowan, 2013; Roye, 2010). Penetrative sexual intercourse, especially un-lubricated penetration, generates friction, which can cause tissue trauma, rupturing cells and creating micro-ulcerations in the rectal epithelial barrier, providing the HI virus in infected semen with direct access to underlying target cells (McGowan, 2013; Nunes et al., 2014). The fragile rectal epithelia are more susceptible to such tissue trauma than the thicker and more robust vaginal epithelia. Additionally, the rectal mucosa is densely populated with a broad range of target receptor immune cells, the type to which HIV-1 specifically binds (McGowan, 2008; Naswa et al., 2012). Added to this, the neutral-pH environment of rectal fluids as compared to the acidic-pH of vaginal fluids provides little protection against HIV infection (Nunes et al., 2014). The rectal mucosa also lacks the protective immune barrier present in cervico-vaginal secretions; lactobacilli present in the vagina act as a natural microbicide (Baggaley et al., 2013; Mcree & Rompalo, 2007). Furthermore, the open-ended structure of the rectum provides a greater surface area for infection as compared with the vaginal cavity (Nunes et al., 2014).

**Table 2: Comparing the physiology / histology of the rectum and vagina**

<b>Anus / Rectum</b>	<b>Vagina</b>
Lack of naturally produced lubrication in rectum enhances likelihood of tissue trauma	Vagina produces natural lubrication when woman is sexually aroused
Rectal epithelial layer is thin (only 1 cell thick), separating blood vessels from infectious fluids	Vagina has much thicker epithelial layer (approximately 40 cells thick)
Rectal tissue is fragile, friction from penetrative sex likely to cause trauma	Vagina is more robust, less likely to experience tissue trauma from penetration
Presence of faecal matter (containing bacteria)	No faecal matter present
Dense concentration of receptor immune cells in rectal mucosa	Fewer CD4 receptor cells in vagina than rectum
Neutral pH environment of rectal fluids provides little protection against HIV	Acidic pH of vaginal fluids and lactobacilli present in vagina act as a natural microbicide
Open-ended structure of the rectum provides greater surface area for infection	Close ended vaginal cavity

Concurrent STIs such as herpes or Human Papilloma Virus (HPV), can also induce rectal epithelial damage characterised by symptoms such as inflammation, open sores or bleeding, and thus substantially increase the risk of transmission of HIV (Nunes et al., 2014). Lesions on the penis or in the rectum, or disruption of the receptive partner's rectal mucosal barriers, which may be caused by chancroid, herpes or other STIs, will undermine the rectum's innate defences, and recruit HIV-susceptible inflammatory cells to the rectal compartment, resulting in an increased the risk of HIV infection (Chersich & Rees, 2008). It has been suggested by some studies, that PAI is associated with increased risk of anal cancer and anal HPV among women, especially in Africa, however there is no consensus in the literature (McBride & Fortenberry, 2010). In addition to higher reported STI rates amongst heterosexual men and women who report having had PAI, evidence suggests that receptive PAI can also cause reproductive tract infections in women, which increase HIV and STI transmission risks (McBride & Fortenberry, 2010). Due to tightness, friction and the lack of naturally produced lubrication in the rectum, the insertive (penetrating) partner in condomless penile-anal intercourse is also more vulnerable to HIV and STI infection through PAI than through PVI, due to the increased likelihood of tissue damage and absorption of anally located viruses and bacteria, as well as increased rectal viral shedding and degeneration of the single colonic epithelial cell layer facilitated by human semen (McBride & Fortenberry, 2010; Varghese et al., 2002).

## **Socio-cultural context of Penile-Anal Intercourse**

As important as the biological and physiological factors relating to the HIV and STI transmission risks of condomless PAI are, it is also critical to examine social and cultural factors that exacerbate the risks of HIV transmission through PAI. In order for any HIV prevention intervention to be successful, the socio-cultural environments in which they are situated need to be considered, alongside the complexity of individual and situational factors, gender norms and power dynamics, and the lived reality of the sexual experience (Maticka-Tyndale et al., 2005). It is critical that researchers, scientists and policy-makers better understand the behavioural and social contexts of condomless PAI in order to design appropriate, effective and acceptable HIV prevention interventions targeting this high-risk behaviour.

To date, the majority of HIV prevention and behaviour change interventions have largely failed to take social, political, economic and cultural contexts into account, and have relied primarily on individual-level behaviour interventions (Coast, 2007). There is increasing recognition that behavioural and biomedical approaches to HIV prevention need to be supplemented with efforts that address the underlying social determinants of risk and vulnerability in order to be successful (Katzan & Chaudhary, 2010; Montgomery & Pool, 2011; Obermeyer, 2005). HIV interventions need to be informed by an understanding of the specific gender relations, social structures and cultural norms that frame sexual roles and individual sexual behaviour (McLellan-Lemal et al 2013). In order to target sexual risk-taking, understanding the influence that social contexts have is imperative. “By examining the broader social construction and re-enactment frame for heterosexual relationships, we may be able to better understand underlying facilitators and barriers to adopting HIV risk-reduction practices” (McLellan-Lemal et al 2013: 2). Qualitative socio-cultural research is well suited to the task of unpacking local meanings, interpretations, perceptions and attitudes that influence HIV risk behaviour and adoption of prevention methods, as well as enabling understanding of the lived realities of sexualities and the contexts in which sexual behaviours are enacted (Montgomery & Pool, 2011; Obermeyer, 2005).

## **Practices related to Heterosexual Penile-Anal Intercourse**

Sexual behaviours are not isolated acts occurring in a vacuum, but take place within broader behavioural settings, and there are various practices associated with sex, either in preparation for sex (pre-coital), or taking place after sex (post-coital). Some of these practices, that are relevant for this thesis’ focus on heterosexual PAI, relate to hygiene of the ano-genital region (anus and external genitalia), such as cleansing, douching and enemas. Others relate to aesthetic concerns, such as hair removal, bleaching or cosmetic surgery. Many practices related to sex focus on mitigating the risk of disease and infection transmission, or avoiding pregnancy, such as the use of condoms (both male and female), which are multi-purpose prevention tools that function to prevent conception, prevent disease transmission, and prevent penile-faecal contact.

Various substances and products are also used as part of the sexual experience, to enhance comfort, such as lubrication, or to add sensations such as heat, tingling and numbing. The engagement in practices associated with sex is subject to many of the same contextual

influencing factors, decision-making processes, and dyadic power dynamics and negotiations as sexual intercourse itself. There are likely to be a range of interpersonal dynamics relating to partner pleasure, pain, comfort and power, inherent in the practice of behavioural acts associated with sex.

As mentioned above, some practices relating to sex are specifically designed to make sex 'safer', by reducing the risk of HIV and STI transmission. However some practices related to sex can increase risk, depending on the specific products used, such as some forms of cleansing or douching, and some lubricating substances (see Chapter 9 for more detail). Evidence suggests that the use of certain lubricating products increases risk of HIV and STI transmission through mucosal irritation (Naswa et al., 2012). Additionally, some of these substances or practices may interfere with the functioning of HIV prevention products such as microbicides, and decrease their efficacy (Hilber et al., 2012). Their potential for increasing HIV and STI transmission means that it is vital to understand these practices and the context in which they occur.

## **Heterosexual PAI and HIV Prevention Research**

One area of HIV prevention research in which understanding sexual behaviours is critical is that of the development of biomedical HIV prevention products designed to be used during sexual encounters. One such biomedical prevention product, and one for which heterosexual PAI is particularly relevant, are microbicides. Microbicides are topical products designed to be applied to the vagina or rectum with the intent of preventing, or at least significantly reducing, the acquisition of HIV and other STIs (McGowan, 2010). The initial conceptualisation of a vaginal microbicide product was that women who may be unable to negotiate condom use or other safe sex practices would be able to use an HIV prevention product without the knowledge or cooperation of their partners (Tanner et al., 2009). Topical microbicide products exist in various formulations, as gels, creams, intra-vaginal rings, films and dissolving tablets (McGowan, 2013). Microbicides have been developed for use in both the vagina and the rectum, but as the physiological environments of these compartments are so different, researchers have faced challenges in developing a single formulation that is appropriate and safe for use in both compartments (see discussion of Chapter 9 for more detail).

Up until recently, microbicide research in Africa has been focused on vaginal microbicides for women. One of the products being investigated in the VOICE trial was a vaginal microbicide gel (see introduction to Chapters 7, 8 and 9 for more detail). There has been recognition that heterosexual PAI may have played a role in diluting the efficacy of vaginal microbicide products in clinical trials, and that a portion of HIV infections amongst trial participants may have been a consequence of PAI (Mâsse et al., 2009). Insufficient attention has been paid to the role of heterosexual PAI in vaginal microbicide trials to this point.

Rectal microbicide research in Africa has only recently commenced ([www.mtnstopshiv.org/news/studies/mtn017](http://www.mtnstopshiv.org/news/studies/mtn017)), and thus far is only investigating rectal microbicides for men who have sex with men (MSM) and transgender women (assigned male at birth), and there have not yet been any trials investigating rectal microbicides amongst African women. The findings from this thesis demonstrate that women in Africa may also benefit from a rectal microbicide product, and further research needs to be done in this area.

## **Exclusion and Silencing of Heterosexual PAI**

Another aspect of PAI that adds an additional layer of complexity and risk relates to the taboos and silences that surround the behaviour. Penile-anal intercourse is one of the most socially stigmatised of common (hetero)sexual behaviours, and has a long-standing association with male homosexual sex in the context of a traditionally heterosexist anal-phobic society (Halperin, 1999). Although there has been increasing recognition of and attention paid to HIV transmission through PAI between MSM in Africa, PAI between men and women is still under recognised, and in some cases its existence is even denied (Brody & Potterat, 2003).

One of the consequences of heteronormativity in the African context, illustrated by the systematic omission of anal sex, is evident in the fact that PAI has been excluded from public health service provision to the general population. The majority of national guidelines for STI screening, treatment, and management in Africa do not include routine examination or treatment of anal STIs (Moys & Khumalo, 2004; *Guidelines for the Management of Sexually Transmitted Infections*, World Health Organisation, 2003). Anal examinations routinely feature only in MSM (men who have sex with men) targeted services, which are themselves

scarce. Evidence suggests that men and women in sub-Saharan Africa often fail to recognise common vaginal and penile STI symptoms and thus fail to seek appropriate treatment; this is likely to be even more the case for STIs in the anal region.

The exclusion of anal sex from HIV interventions and education campaigns aimed at heterosexual men and women in Africa means that there is a general lack of knowledge and awareness of anal STIs (prevalence data on anal STIs, especially amongst women, are not available). This lack of awareness, combined with judgemental attitudes and embarrassment on behalf of clinic staff, and stigma and taboos around anal sex behaviour, likely results in situations in which people suffering from anal STIs firstly do not recognise symptoms, and secondly are reluctant to seek treatment. As discussed in the section on the physiology of PAI above, it is well established that STIs heighten HIV transmission risks.

Despite condomless anal sex being the most efficient way of transmitting HIV sexually, HIV prevention messages targeted at the general heterosexual population fail to recognise the importance of PAI as an HIV transmission vector and continue to emphasise penile-vaginal sexual transmission; anal sex tends to be referred to only in materials specifically targeting MSM, these materials themselves being scarce across Africa (Baggaley et al., 2010; Sawyer, Howard, Brewster-Jordan, Gavin, & Sherman, 2007). Further evidence of the penile-vaginal heteronormativity of health systems is illustrated by the limited availability of condom-compatible lubricants. Globally there has been a lack of awareness and sensitivity in the public health sphere toward any sexual behaviour that lies outside the normative conception of 'sex' as penile-vaginal penetrative intercourse (Baggaley et al., 2010; Dixon-Mueller, 2009); this has particularly been the case in Africa (Lorway, 2006).

## Language

Linked to the exclusion and silencing of heterosexual PAI, and penile-vaginal heteronormative assumptions, mentioned above is the issue of language. One of the topics covered in this thesis relates to language and terminology used to refer to sexual behaviour and the social norms that guide sexual communication. This research explores the impact that issues relating to language, terminology and sexual communication norms have on research participants' comprehension of questions and reporting of sexual behaviour, as well as the way in which sexual behaviours are conceptualised in the public health domain.

In this thesis I examine these issues specifically as they relate to heterosexual penile-anal intercourse in sub-Saharan Africa.

Chapter 4 is a review of socio-behavioural research articles on sexual behaviour, in which I examined how PAI is situated and conceptualised within terms related to 'sex', 'virginity' and 'abstinence'. The rationale of including a review like this in a thesis focusing on heterosexual PAI is that the ways in which sexual behaviour terms are defined, operationalised and interpreted has critical implications for behavioural HIV prevention activities. Despite its limited scope and the assumptions it is based on, the penile-vaginal heteronormative definition of 'sex' has formed the basis of HIV prevention, education and health promotion activities targeted at the general heterosexual population. Despite its high risks, heterosexual PAI has been overlooked and largely excluded from research and clinical practice as a result of deeply entrenched assumptions, social stigmatisation and taboo. Chapter 4 examines the ways in which terms and concepts of 'sex', 'intercourse', 'virginity' and 'abstinence' have been defined and operationalised in sexual behaviour research, and specifically how PAI fits into these definitions and concepts. The ways in which these terms have been defined has had implications on HIV interventions and research, as well as the generation of knowledge that has been used to inform interventions. These sex-related concepts and definitions also have implications on people's sexual behaviour and risk awareness. Underlying these issues is the importance of understanding how sexual acts are defined and understood, as this is crucial to HIV prevention and clinical practice.

Sexual communication is dictated by socio-cultural norms around how to appropriately communicate about and discuss sexual behaviour. The language and terminology used to communicate about sex acts tend to be ambiguous and indirect, and subject to euphemism. Understanding the language and terminology that people use to communicate about sex is important as it affects the research setting as well as programme design and implementation. Chapter 7 discusses language and terminology used for PAI in the VOICE study and the implications that this had on participants' comprehension and interpretation of questions on anal sex, and their subsequent reporting of the behaviour. Another language issue is that of cross-cultural translation and cultural equivalence of research terms; this topic is also addressed in Chapter 7.

## Sexual Behaviour Reporting

Linked to issues of language and socio-cultural stigmatisation and taboos of certain sexual behaviour is the issue of reporting of sexual behaviours by participants in the research setting. Sexual behaviour reporting in research is subject to factors such as social desirability bias, which affects the willingness of research participants to disclose their actual sexual behaviour. The socio-cultural normative positioning of certain sex acts as acceptable or unacceptable influences the way in which research participants report on them. Sexual behaviours that are considered shameful or embarrassing, such as PAI, are more likely to be under-reported. The accurate reporting of sexual behaviour is not only subject to social desirability bias, but also to the way in which participants understand and interpret the questions they are being asked (Montgomery & Pool, 2011). As referred to briefly above, this is particularly relevant for cross-cultural multi-site research where research terms have to be translated into different languages, creating the potential for certain meanings to change or be lost in translation, which can lead to flawed data.

To encourage candid reporting of sexual behaviours by participants, researchers employ a variety of techniques and reporting methods. Methods for reporting sexual behaviours in the research context that are discussed in this thesis include ACASI (Audio Computer-Assisted Self-Interviewing), a method thought to induce more accurate reporting of socially sensitive behaviours due to its increased privacy. Other methods involving a researcher interviewing a participant include face to face interviewing (FTFI) or in-depth interviews (IDI). Further discussion of these methods and how they were used in this research project can be found in Chapter 3. Additionally, discussion on the relative benefits and shortcomings of each of these methods in the context of reporting sensitive sexual behaviours, specifically PAI, in the sub-Saharan African context, can be found in Chapter 7.

# STATEMENT OF RESEARCH PROBLEM & SIGNIFICANCE

Women in sub-Saharan Africa are at high risk for contracting HIV, and costly HIV prevention efforts have been underway for the past two decades, with varying degrees of success. Despite condomless heterosexual PAI being a high-risk behaviour, widely practiced, and potentially playing a large role in HIV transmission in Africa, little is known about it. The reason for this lack of available data on this sexual behaviour is multifactorial, partly due to the heteronormative penile-vaginal assumptions that have guided the design and focus of research, combined with deeply entrenched taboos and social stigmatisation of PAI. It is important to understand the extent to which HIV is being transmitted through condomless PAI, or PAI involving condom failure due to the use of incompatible lubricants. It is also important to understand practices related to PAI that may enhance transmission risks, such as rectal cleansing. Additionally it is vital to understand the role that PAI practice amongst participants in clinical trials is playing in HIV infections amongst participants, specifically women using vaginal microbicide gels.

The behaviours that this thesis focuses on include heterosexual penile-anal intercourse and associated condom use, lubricant use, and rectal cleansing practices. In addition to understanding these behaviours themselves it is crucial to understand the motivational cues, dyadic interactions, power dynamics and sexual decision-making processes surrounding those behaviours, the relationship and social contexts in which they take place, and the environmental and contextual factors that influence those behaviours and their associated risks. Qualitative research of this nature can provide data on the lived realities and experiences of sexual behaviours, and the contexts in which they occur (Montgomery & Pool, 2011). These contexts, dynamics and experiences are likely to be different for PAI than for PVI, and therefore must be specifically investigated.

With the high risk of transmitting HIV through PAI being established knowledge in the scientific community, recent years have seen a rise in research relating to anal sex. However, few studies conducted in Africa have PAI as the primary focus, and the majority of existing data on anal sex pertains to men who have sex with men (MSM) rather than heterosexual men and women (Ibanez et al., 2010; Misegades, Page-Shafer, Halperin, & McFarland, 2001).

Some researchers have suggested that prevalence of heterosexual PAI is increasing (Marston & Lewis, 2014; Roye et al., 2012; Štulhofer & Ajduković, 2011).

## RESEARCH AIMS

The aim of this research is to contribute to an in-depth understanding of how heterosexual PAI is experienced in sub-Saharan Africa. This research examines the socio-cultural contexts in which heterosexual PAI is embedded, and in doing so, contributes towards an understanding of sexual risk perceptions, risk behaviour, and motivating factors relating to heterosexual PAI in the context of sub-Saharan Africa. The findings from this research provide unique insight into heterosexual PAI behaviour and related practices in the context of sub-Saharan Africa. This research explores the complex web of taboos and silences around heterosexual PAI, and the ways in which they influence people's risk-taking behaviour and interpretation of the risks associated with PAI.

## RESEARCH QUESTIONS

- 1. What are the socio-cultural contexts in which heterosexual penile-anal intercourse and related practices are embedded in Sub Saharan Africa?***
- 2. How does heterosexual penile-anal intercourse fit into sexual scripting at the socio-cultural, interpersonal, and intrapersonal levels?***
- 3. What individual and contextual factors condition risk behaviour around heterosexual penile-anal intercourse and related practices in the context of Sub Saharan Africa?***

This thesis is arranged into ten Chapters: Chapters 2, 4 and 5 are monograph chapters, and Chapters 6 to 9 are papers that have either already been published or are in the process of being published. For each of these findings chapters, I begin with a synopsis of the chapter, expand on the methodologies used where necessary, and give a statement of the contribution that this chapter makes to the overall thesis.

## CHAPTER 2

# Patience's Story

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This is Patience's story. This narrative paints a portrait of an HIV-positive woman in sub-Saharan Africa who engages in penile-anal intercourse (PAI). The reason I have chosen not to provide the details concerning exactly where she comes from, is because she could be from any country in sub-Saharan Africa, and many of the factors that influence her sexual decision-making, sexual behaviour and HIV status are shared across women from the region. The case study as a qualitative methodology provides data that is both 'unique and typical', and though Patience's account is contextually situated, it sets the stage for the complexity of conceptualisations of PAI and enacted PAI behaviour (Halkier, 2011). Additionally, this case study demonstrates the HIV transmission risks associated with condomless PAI and the use of condom-incompatible lubrication, as well as the limited knowledge about these risks amongst women who engage in the practice. Although this narrative comes from one woman, and is necessarily located within her specific local context, her story ties in with many of the overarching themes in this thesis, and illustrates the lived reality of the central topic – perceptions and practice of heterosexual penile-anal intercourse practice in sub-Saharan Africa, and its role in HIV transmission.

This case study came about after I had been introduced to Patience by a community outreach worker from a project that I had been involved with. I had indicated that I was interested in speaking with women who had experienced heterosexual PAI. The community

outreach worker who connected me to Patience had explained my research interest to her, after which Patience agreed to be interviewed. My initial aim was to conduct an unstructured interview with Patience, exploring her narratives about her experiences with PAI, to see what emerged from her story. In our first interview I found Patience's story captivating, and asked if she would be happy to be interviewed again. Each subsequent interview was unstructured, I would ask her questions related to my preliminary analysis of the previous interviews, and our conversations followed emergent themes.

I first meet Patience in her small house in an informal settlement on the outskirts of a large city in sub-Saharan Africa. Having arranged the interview appointment over the telephone, I arrive at Patience's house in the afternoon. It is her day off from work, and when I arrive she is dressed in an old t-shirt and skirt, with her hair un-styled; I am struck by her scruffy and unkempt appearance, and the slightly chaotic state of her small house. No one else is home, and Patience invites me inside to take a seat in the small lounge area at the front of the house. Patience speaks English reasonably well, and is literate. After I have explained the purpose of the study and the nature of the interview, Patience agrees to participate and signs the consent form. I turn on the recorder and we start the interview.

Patience is a thirty-two year old woman, and is employed as a domestic worker with a family in a nearby wealthy suburb of the city. Patience is a migrant, having left her place of birth several years ago for economic reasons, she had originally arrived in this city seeking employment. Patience lives with a male partner that she has been in a relationship with for nine years, and they have a five-year-old daughter together. Patience has two older children, from a previous partner, who live with her mother in her home village. Patience did not complete her schooling. After she had finished primary school her mother ran out of money. After Patience had left school, aged sixteen, she felt that her only option was to move out of the family house and get married.

*(After leaving school) I become a mother to my first child. I go and get married... I was 16 years when I get married... Because there was no choice, than just staying at home. So I got out and go and get married... that was the only way I could do it.  
(Interview 3)*

The first time I interviewed Patience, she spoke to me quite candidly about her sex life. In the brief demographic questionnaire that I administered before the interview she said that

over the course of her lifetime, she'd had vaginal sex with six men, and anal sex with eight men. She said that she was 16 years old when she first had vaginal sex, and 17 years old when she first had anal sex. She said that she and her main partner both had other sexual partners outside of their relationship. Patience told me that she has never been given money or goods in exchange for vaginal sex, but said that she has been given material goods in exchange for anal sex.

After the demographic form had been completed and our conversation had got underway, I steered the discussion towards anal sex. Patience shared with me that she and her partner engaged in anal sex regularly. In the first interview Patience said that both her main partner and herself prefer anal sex.

*I like the anal sex. Ya even my boyfriend he like the anal sex, we are always doing it, every day. Or three, four times a week. (Interview 1)*

The way in which Patience related this to me implied that she felt that there was something wrong with her, 'a problem' that she had, that she is unable to enjoy vaginal sex. She explained that even though she finds anal sex painful, she feels it is more intense than vaginal sex; she said that she does not "feel anything" when she has vaginal sex.

*The anal sex... it's painful, but I can enjoy it more than the usual one... The way I feel (during anal sex) is different, I feel different than the usual one... it's more than the usual one... The original one (vaginal sex), I hate it... I don't enjoy it... I like the anal one... Ya... it's (vaginal sex) not nice (laughing)... I've got a problem. This one, the original one, I don't feel like I am having sex... I don't feel sex if I'm doing the original one... I don't feel anything. Even at all... (laughs). Sometimes I'll just let it go but I'll be very angry if you (a partner) are using the original one (vaginal sex). (Interview 1)*

The second time I meet Patience, I pick her up from a taxi rank close to her work place and take her home. This time we meet she is smartly dressed in a tight-fitting short red velvet dress, wearing red lipstick and a weave (hair piece). She explains that she just come from her work as a domestic worker. I am intrigued about her outfit, as it strikes me as unusually 'sexy' for a domestic worker to wear to her workplace. She gets into my car and we drive to a quiet park nearby to conduct the interview.

Notably, in this interview Patience's narrative differs to that of the first interview in a few ways, and many of her answers to my questions do not match with what she first told me. These discrepancies could have been due to her perception that I may judge her if she disclosed enjoying anal sex. The third time I met with Patience, I followed up on some of the things she'd told me in both our first and second meetings, trying to gently probe and iron out the discrepancies. At no point in the third interview did I point out the discrepancies to Patience, or accuse her of changing her story. In any case, for the purpose of this narrative, I proceed to tell Patience's story, and through telling her story in her words, the story of many women in similar situations across the region.

One example of the discrepancies in her narrative was that in our second interview, Patience contradicted what she'd in the first interview about preferring anal sex, saying this time that she does not enjoy anal sex, as she'd suggested that she did before. Patience described that she feels uncomfortable having anal sex, feeling that it's 'not right', an example of self-stigmatisation as a result of the socio-culturally informed status of anal sex as an undesirable, unacceptable behaviour. Notably, Patience classified herself as a Christian. However, despite feeling that it's 'not right', Patience feels that she must agree to have anal sex for her primary partner's sake, and to maintain relationship security, worried that if she does not do so, then he will seek anal sex from other partners.

*It (anal sex) is not normal in our tradition. And doing that anal sex to me is like I'm in prison because it's not the thing which is in my blood, I don't know it. So I'm just doing it because of him, but it's not good... he wants it, and I don't want it. If I say I don't want it he will keep fighting. Or he's going to spend like the whole week not coming at home (going out to find other sex partners). (Interview 2)*

Patience shared with me that the first time she engaged in anal sex, her partner had suggested and initiated it. In the first interview she explained that although she did not enjoy her first experience with anal sex, she became accustomed to it to the extent of growing to prefer it to vaginal sex.

*It was painful, and I was very angry, it was my first time, I never did it (anal sex) before. But then I keep on doing it and I was saying no, this is much better than the... (laughs embarrassedly) than the 'other one' (vaginal sex)... First time I was angry because it was painful. Second time, third time, now it was fine. (Interview 1)*

When her partner first suggested anal sex to her, Patience was embarrassed and reluctant. The reason for this, she explained, was partly that she said she did not know anyone else who had done it before.

*He (partner) was saying he's not comfortable to do the sex the normal way (vaginal)... I felt embarrassed but he kept on insisting... I never did it before. I never knew someone who did it. (Interview 2)*

Patience admitted that she does not feel able to talk about anal sex with her female friends, as it is regarded as a taboo behaviour, and she is concerned what people might think of her if she told them that she engages in anal sex regularly.

*Friends will just throw you away if they find out that you are always doing like that side (anus), so that's why I just keep it private for myself. (Interview 1)*

This demonstrates the socio-cultural guidelines around sexual communication, framing which sexual behaviours are deemed socially acceptable to discuss, and which are not. Apparent in Patience's narrative was the social stigmatisation of anal sex, as she explained that people in her community regard anal sex as a totally unacceptable behaviour. In fact the country she comes from, as is the case with most countries in Africa, criminalises anal sex practice for both men and women.

*In our country they said you are going to be killed if they heard you talking about that (anal sex)... they are not allowed to do (anal sex)... our law says if they gonna be caught they gonna be killed. (Interview 2)*

In terms of her own perceptions of the behaviour, Patience explained that she regards anal sex as being cleaner and safer than vaginal sex because generally condoms are used for anal sex, whereas most men refuse to use condoms for vaginal sex.

*It's clean sex... it's safe... when you are having anal sex, you also always use a condom. Every time. You don't do it live (without condom)... so it's safer and it's clean... Because you use a condom... This one (vaginal sex), our men... they don't use a condom if you are doing original sex (vaginal sex). They just do direct (without*

*condom). But when we do anal sex, like my partner now. We always use a condom. Every time. He doesn't want to go direct... But (for vaginal sex) then he wants it direct (without a condom). (Interview 1)*

Patience explained that the reason that condoms tend to be used for anal sex, is for hygiene purposes, rather than protecting against STI and HIV transmission, the risks of which she was unaware. In our first interview, Patience's lack of knowledge about the possibility of HIV being transmitted through anal sex was apparent. After the first interview had ended, I explained that in fact HIV could be transmitted through anal sex.

Patience explains that she is more concerned about the cleanliness of her rectum than her partner is. Patience said that she usually cleans her anus with warm water when she knows she is about to engage in anal sex.

*Because the anal sex I think is not clean. That's what I think... Because we use it (anus) in the toilet (to go to the toilet / pass out faeces). So I think it's not clean. But he is saying it's fine, it will be clean (her partner does not mind if they have condomless anal sex). (Interview 2)*

Patience explained the reason behind her perception that her male partner prefers anal sex to vaginal sex.

*He says it's nice because the anal is small (tight), it's not bigger (loose) as the original one (vagina) (laughing). So he likes it... He says "I don't like it, the vaginal one, I just like that one (anal)". (Interview 1)*

Patience explained that she and her partner usually begin a coital encounter by having vaginal sex, and then proceed to anal sex.

*We start with the vagina. Then go to last, the anal (laughing). (Interview 1)*

Patience said that she often has anal sex as an alternative to vaginal sex when she is menstruating.

*I always do that (have anal sex while menstruating)... Because it (the anus) is clean, there's no blood there... He (partner) likes it. (Interview 1)*

Patience works as a domestic worker, in her words “a house girl”, for a family in a wealthy suburb about a forty-minute mini-bus taxi ride from the informal settlement where she lives. In the first interview, Patience shared with me that she had been having a sexual relationship with her employer, and had engaged in anal sex with him.

*My boss he is approaching me, he needs that (anal sex) to (from) me... He (my boss) just approaches me and says “do you love me?” ...I said no, the first time. And he said why? Because he has a wife, I said “you have a wife and I have a husband”. He said no, he don't mind... Like yesterday I was at work, he was forcing me there in the bathroom, I said no because I wasn't feeling well. So he said he's gonna come to my place like tomorrow. He's not far, he stays (close by). (Interview 1)*

When I met Patience for the second time, she did not open up about her relationship with her employer, even after I gently probed. As she seemed reluctant to discuss this topic, I chose not to probe further. In our third interview, I approached the discrepancies in her accounts in a different manner. I opened with a statement that after having listened to the audio recording from the first two interviews, I had some further questions. In this way I paved the way for re-visiting some of the things that she had shared with me in both the first and second interviews in a non-threatening way. I said that in the first interview she mentioned that she'd had a relationship with her boss, and asked her to tell me more about this relationship. At first she took this to mean that I was asking about how well she got on with her employer, and said that she had a good relationship with him. I then probed more directly saying that she had mentioned that at one stage she had a sexual relationship with him, and asked her to elaborate. Patience told me that she had indeed had a sexual relationship with him at one time, which had lasted for about a year, but had now ended. I asked her to tell me about how the relationship had started.

*He came to me. Because I was always having problems with my husband, then I communicate with him, he was counselling me, that's when it started... for the first time it was hard, but I get in to love it... he's my boss, but he said “No, you put the boss thing aside, we are equal now”. (Interview 3)*

When I probed Patience about the power dynamics in the sexual relationship she'd had with her employer, she said that he was very respectful of her, and unlike with her main partner, they would only have sex when she felt like it.

*He said "no it's fine, tell me when you want it (sex)"... I think that's a free and fair relationship. (Interview 3)*

Patience told me that she had decided to put an end to the sexual relationship with her boss when she discovered her positive HIV status; she explained her reasons for this.

*Because I feel innocent (guilty), like maybe he's gonna get HIV, you know sometimes the condom will break, then he's gonna be HIV, and the wife is gonna be HIV-positive also. So I just said, no, I'd rather stay alone, or find a boyfriend who is also positive like me... I didn't tell him that I'm positive, I just said "no, I'm a married woman, I don't want to cheat on my husband"... He still says we must get back together but I am saying no, I don't want... my boss, he's a good man, I don't want to lie. But the only thing is this HIV virus. But he's good... (he makes her feel good). I feel like a woman if I'm with him. (Interview 3)*

Patience's descriptions of her sexual interactions were in line with traditional sexual scripting and gendered sexual roles casting men as the initiators and aggressors in heterosexual dyadic encounters. In Patience's experience, it has always been her male partners who initiate sex.

*It's not easy for the woman to suggest (sex). But it's easy for the man to say "no, let's do this"... I think it's because of our culture, it's not easy... But it's easy for the man... The women are always shy... The man's pleasure is important. (Interview 1)*

In addition to her male partners initiating sexual encounters, Patience also explained that in her experience, male partners always initiate sexual positions, and take control of the sexual interactions.

*In our culture it's a man, who always chooses (the sexual position) every time... like that anal sex. Men like it, but it's painful to us (women)... He always says things, I want you to do this, you must do this, you must do that. I say, ok if I don't like I will*

*just be quiet, I will not answer... Especially in our culture, men every time, they demand. "I want this". Not "please"... (Interview 3)*

Patience explained that women "in her culture" lack the sexual agency, or power, to refuse sex when a male partner requests it. One reason that women acquiesce is their concern that if they don't provide a male partner with the sex he wants, that he will seek it elsewhere. Maintaining relationship security appeared to be a strong motivational cue for engaging in sex, and anal sex in particular.

*In our culture we don't have the power to say no. It's always yes. Even in the morning, or anytime... Because we just think that maybe he will "go out" (find someone else)... So you will say yes even if you are not enjoying it... (otherwise) he will not come back. (Interview 2)*

The way Patience described her relationship with her primary partner, her 'husband', suggested that she has little agency in the sexual relationship, due in part to her economic dependence on him. She described her lack of power to control or refuse sex. In contrast, with her extra-marital sexual partners, she described herself as having a small degree more power because she did not live with them and was not financially supported by them, and could thus decide when to have sex with them.

*Because I was not staying (living) with them, if they come to my place, I can say "no, I don't want sex today". Now it's difficult with my husband to say no because I am staying with him and he will say "I am paying rent for you, I am giving you food to eat, so you must do as I want". So for someone who is coming from his place, I've got power to say no... Right now, if I am not working... I don't have anything to say. Like if the husband is working, he is doing it (sex) at any time, the way he want it... He's the boss (laughs). (Interview 3)*

Also congruent with prevalent socio-cultural gender norms and expectations, Patience explained that she considers it normal for men to have multiple concurrent sexual partners. When I asked her how women feel about these situations, she explained that women have little choice but to put up with it.

*It's the choice of the man, if he wants to stay with one people or ten wives... even if you say no, he will say "you must go back to your own parents if you don't want what I am going to do"... women don't have such power to say no. (Interview 3)*

In the third interview, Patience disclosed that she has experienced domestic violence at the hands of her main partner, and pointed out a bruise on her cheek-bone, below her eye. She explained that her partner beats her if she does not acquiesce to his sexual demands, or if she doesn't give him all her earnings.

*My husband now, he is very, very violent... he doesn't want me to talk about it... because if I talk to someone and he heard it I think maybe he's going to come and beat me again... Like if he says he wants sex and I say no... we will fight about that... and if I, by the end of the month I am getting paid, if I didn't give him that money, we will fight again. (Interview 3)*

Bringing the conversation back to sexual behaviour and anal sex, Patience explained that although she has now become accustomed to anal sex and finds it less painful than she used to, sometimes it can still be painful, especially if the partner has a big penis (this comment suggests that she has had anal sex with more than one partner).

*If the penis is big, sometimes you will have like some cracks, and you will feel like it's painful. But as time goes on, you will feel like no, it's fine. (Interview 1)*

Despite having engaged in anal sex several times, with several men, over the past 15 years, Patience had never heard of lubricating products designed for sexual intercourse. Patience explained that she does use products to lubricate anal sex and make it less painful; she usually uses Vaseline™ (petroleum jelly), which she uses in conjunction with a latex male condom.

*You put it (Vaseline) on the condom, first wear the condom and then put the Vaseline on the condom... It makes it better. It's painful but not that much. (Interview 1)*

Patience explained that she also sometimes uses Vicks™ as a lubricant in anal sex. Vicks is a petroleum-based mentholated topical chest ointment that is designed to relieve congestion.

*Vaseline or Vicks... the Vicks makes me feel like... it makes me feel cold... it was painful (before) because we were not using anything. Only the condom. So I said no, it's painful, so we first used Vaseline and he said "no, Vicks is also fine". (Interview 2)*

As the literature suggests is prevalent in many communities in sub-Saharan Africa, Patience told me that in the past she used to engage in vaginal practices, using various substances to make her vagina dry and tight for the pleasure of her male partner.

*We use lemons. Lemons with cooking oil... You first squeeze the juice, and then you take the cotton with some little bit of cooking oil. Then you dry that cotton and put it (in the vagina). Garlic also... It makes it (vagina) to be tight. And dry also. The mucus (vaginal fluid) is not much... But (I) got infections... so that's why I leave it, because it was painful now to put it. That's why I leave it... (During sex) I don't feel anything because it will be painful for me. But the husband says it's nice and they like it. (Interview 1)*

Conceptualisations and definitions of 'sex' and 'virginity', and specifically how anal sex is situated in these, was one of my primary research interests. For this reason, I asked Patience to explain to me how she defined 'virginity'. Her view was that female virginity is equated directly with the hymen and that a woman who has never had vaginal sex but has had anal sex is still a virgin as her hymen will still be intact.

*Because that thing (hymen) is not broken... it (hymen) is not in the anus. (Interview 1)*

However in contrast, Patience believes that a man would lose his 'virginity' whether he has insertive penile-anal or penile-vaginal intercourse with a woman.

*If he does the sex in the anus, the virgin will break. But for the lady no, it will be still there. (Interview 1)*

Patience explained that some of her friends sell sex, and regularly get clients requesting anal sex, for which they are paid more money than for vaginal sex. The reason for this, she believes, is that men are unable to have anal sex with their wives, as it is not 'correct' or socially acceptable to do so, so they seek it out from sex workers. Sex workers consent to

have anal sex with their clients due to the financial benefits but also because they are compelled to do so, by virtue of their profession.

*They say most of the men (clients) now they don't like original sex, they only want anal. And they pay you more if you give them the anal sex... (the men can't have anal sex with) their wives, they (the wives) say no... so they decide to move out, they say ok let me go to someone who can have it... (But the sex workers)... because it's their job. They do everything to keep their jobs. (Interview 1)*

When I met up with Patience a second time, about eight months after our first interview, Patience tearfully disclosed that she tested HIV-positive earlier in the year, since I had last seen her.

*Ya (eyes welling with tears), it keeps touching my mind... every time I've got a lot of stress because of those things (testing positive). (Interview 2)*

Patience had discovered that she was HIV-positive without actively seeking out her status. After being seriously ill for a few weeks, she was taken to a government hospital, where she was tested for HIV, and tests showed that she had a high viral load. Patience was put on antiretroviral treatment immediately. After months of trying unsuccessfully, Patience eventually persuaded her main partner to have an HIV test. He also tested positive and was put on treatment. Since discovering her status, Patience has stopped seeing her other (extra-marital) regular sexual partners. She was scared to tell them about her HIV status so felt that it was better to leave them.

*Now I'm just having this one partner. Because I was tested HIV, I decided to leave them all. Just stick to one partner, so I am having one partner now... I just tell them I am no longer comfortable because I am married, I don't want this any more... I've got one... the other one is still phoning me. I say "no, I don't want it". (Interview 2)*

Patience has very little knowledge about how HIV is transmitted, and about how to live healthily with HIV. She had heard of HIV when she was at school, and believed that her mother-in-law died of AIDS, but she was very poorly informed. The only information she had came from the post-test counselling she received at the hospital after testing positive.

Patience believes that she contracted HIV from her main partner, as she explains that he never liked using condoms for vaginal sex, and condoms often broke during anal sex (possibly due to having been used in conjunction with latex-degrading lubricants). She also suspected that he also had other sexual partners outside of the relationship, and brought the virus into the relationship.

*It's because of this we say that we are HIV-positive. Still (strong emphasis on this word), he doesn't like condoms. Sometimes we use, sometimes we don't... (Sometimes) when you finish (sex) you just see that in the condom there is nothing (no sperm inside) so you just say the condom it has broken... Like now my husband of mine, he doesn't want to use protection all the time. Sometimes we do, sometimes we don't. (Interview 2)*

Throughout the part of the interview where Patience spoke of her HIV status, she was tearful and emotional. She explained that she wanted to end the relationship with her main partner, as he is controlling and manipulative, and she felt that her life had been ruined by him.

*Because of this man, he has destroyed my life too much. (Interview 3)*

Patience described her feelings of being trapped, concerned that she will not be able to find another partner now that she is HIV-positive. She also shared her worry that if she were to leave her main partner, he would then tell everyone in the community that she is HIV-positive. As a result of these fears, combined with the threat of violence, she consents to having whatever type of sex her partner requests, even if she doesn't want it.

*Like myself, I am HIV-positive, and who can like me if I am HIV-positive? (welling up with tears) It's only that one, or that my husband knows now I am HIV-positive, if I left him go he's gonna spread the whole (tell everyone), that "she's HIV-positive". So... you say ok, you want it (sex) anytime, you can take it, whether how you want it (whatever type of sex you want)... I heard some of those stories (in the community)... that people are laughing, this one is positive, this one is positive. (Interview 2)*

This one woman's story embodies many of the complex multi-level issues addressed in the following chapters in the real-life context in which they occur (Crowe et al., 2011). Patience's narrative illustrates the complexity of the dynamics of sexual agency and gendered power inherent in situations in which heterosexual PAI occurs. The account that Patience gives highlights some of the multitude of reasons why a woman in sub-Saharan Africa might engage in PAI; some of the reasons that led Patience to engage in PAI included relationship security, fear of violence, menstruation, and lack of knowledge of the risks of PAI. Motivational cues for PAI are linked to the socio-culturally informed sexual scripting and gendered power dynamics inherent in heterosexual dyadic relationships. Also evident in Patience's story are gendered power inequities in interactions involving PAI, as well as the specific sexual scripting for heterosexual PAI and how these differ in many ways from PVI. Patience's narrative also illustrates the script disjunctures and conflicting motivational cues that women have to navigate and negotiate in their sexual interactions, and how they can impact on their sexual risk (more discussion of this in Chapter 10). A lack of sexual agency was demonstrated by the difficulty Patience had in negotiating sexual interactions and adopting of safer sex measures.

Patience demonstrated a lack of knowledge about the HIV transmission risks of PAI, and a lack of awareness about condom-compatible lubrication. Her story illustrates the way in which knowledge gaps around how to practice PAI safely put her at increased risk of contracting HIV. Socio-cultural sexual norms and taboos framing anal sex as a socially unacceptable behaviour impacted on the lack of information that Patience had regarding anal sex, safer sex practices for PAI, and the HIV transmission risks of condomless anal sex. As she was unaware of the STI and HIV transmission risks of condomless PAI, Patience described condoms being used in anal sex for hygiene reasons. Patience had not heard of latex-condom compatible lubricants, and demonstrated a lack of awareness that petroleum-based lubricants are likely to degrade latex. Patience described her experiences of condom failure being a recurrent problem, which could be explained by her use of Vaseline and Vicks as sexual lubricants for PAI. Similar narratives around condom and lubricating parties for PAI are echoed in the experiences of other women as seen later in Chapters 6 and 9.

Also apparent in Patience's narrative are aspects relating to conceptualisations and definitions of virginity, as discussed in more depth in Chapters 4, 5 and 6. Patience's conceptualisation of female virginity as being only vaginal, and determined by the hymen, is

echoed by findings in later chapters. Additionally the anal sex taboos demonstrated in Patience's story relate to findings in other chapters.

Through telling Patience's story we can reach a more subtle and situated understanding of heterosexual penile-anal intercourse in the context of one woman's life. Through Patience threading her experiences into one cohesive narrative, we can unpack the processes of sexual decision-making and risk-taking, and the contextual factors that influenced those processes, and the resulting occurrence of condomless PAI. Conducting multiple interviews with Patience over the course of a year, I was able to build rapport and trust with her, and as demonstrated by the inconsistency in her narrative, a single interview may not provide a research participant with an enabling environment in which to disclose sensitive sexual behaviours. Although we are not able to generalise from the story of one individual, this narrative situates the phenomena of heterosexual PAI in sub-Saharan Africa in the lived reality of one woman's life.

This chapter has served as an opening to the thesis topic, situating the 'phenomenon' under study, namely heterosexual penile-anal intercourse practice in sub-Saharan Africa, in its real-life context. In the next chapter I give details of the research methodologies that were used across all three studies whose data are presented in this thesis, and give a background to the socio-behavioural theories that guided the analysis and interpretation of the data.

# CHAPTER 3

## Methods

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The findings sections of this thesis (Chapters 2 and Chapters 4 to 9) present primary data from three separate studies. This chapter summarises the various data collection methods employed across the three studies, details of the study populations, the approaches taken in the data analysis processes, and the theoretical frameworks that guided the analysis and interpretation of the findings. Further details of the specific methodologies used in the studies are provided in the methods section of each findings chapter.

### RATIONALE FOR DATA COLLECTION METHODS

Across the studies, a variety of qualitative research methods were used, including in-depth interviews (IDIs) – both single one-time interviews and longitudinal (for the case study) – focus-group discussions (FGDs), and body mapping. Participant demographic data were also collected in using questionnaires.

Qualitative research methodologies were appropriate in order to answer the research questions. Qualitative methods are interpretive, seeking to contextualise the social phenomena being researched; the ‘phenomenon’ in this case being heterosexual penile-anal intercourse in sub-Saharan Africa. Qualitative research methodologies, which encompass a diverse collection of approaches to inquiry, intend to explore and explain the subjective experiences of individual actors in society, generating knowledge grounded in human experience (Power, 2002; Sandelowski, 2004). By providing rich, in-depth observations and

'thick descriptions' (Geertz, 1973), qualitative enquiry of sexual behaviours unpacks the meaning of such behaviours, attempting to understand them from the subject's own frame of reference, and situate them within the context in which they occur. Qualitative research methods such as face-to-face in-depth interviews (IDIs) and focus group discussions (FGDs) are well suited to the task of unpacking meanings, lived experiences, perceptions and the socio-cultural factors and contexts that influence decision-making processes and behaviour (Villanueva, 1997; Strauss & Corbin, 1990).

Essentialist views of sexuality and sexual behaviour maintain that a universal, biologically-rooted sexuality exists and is manifested in specific behaviours common to the human species everywhere. The bulk of individualistic quantitative research on sexuality and sexual behaviour has been conducted in a manner in which sexual behaviours have been separated from their context, examining the biological and psychological aspects of sexual behaviour, without considering broader contextual determinants that may influence behaviour.

In contrast to this, most social science research on sexual behaviour and sexuality has been founded on a constructivist approach, which asserts the importance of local meaning and context (Obermeyer, 2005). In this constructivist paradigm, researchers often address the processes of interaction among individuals, or what might be termed the 'micro-politics' or 'micro-interactions' of dyadic relationships (Fontedevilia, 2009). Qualitative research methods can also be used to examine social processes and structures by examining in fine detail the lived experiences of individuals situated within those contexts (Hermanowicz, 2013). By conducting interviews and hearing the views, opinions and experiences of research participants, and by examining the sexual decision-making processes that result in a specific risk behaviour or sex act, one can begin to understand how a specific behaviour, in this case heterosexual PAI, is conceptualised and experienced in the real-life setting (Creswell, 2007).

## **Focus Group Discussions**

Focus group discussions (FGDs) are a useful tool for exploratory phases of qualitative research, as they help to provide background data on the social and cultural context in which the phenomenon of study occurs, as well as data on the linguistic framing of a topic, and the way in which a topic is conceptualised, perceived and discussed in the community setting. In terms of research on sexual behaviours, FGDs do not necessarily yield data on the

specifics of individual sexual behaviours, but through exploring community attitudes and perceptions, social dynamics, and contextual issues relating to sex, FGDs can shed light on power dynamics inherent in sexual interactions, processes of decision-making around sex, and the contextual factors underlying these dynamics and processes.

In addition, FGDs enable the discovery and further investigation of unexpected themes and topic areas as they arise in conversation between FGD participants. “Focus groups shift the emphasis away from the individual and use the dynamic of the collective discussion to gain research insights and augment our understanding of a topic” (Power, 2002: 88). The key difference between IDIs and FGDs are that IDIs are primarily concerned with individual perceptions and behaviour, whereas FGDs rely on peer interactions, and use conversational social dynamics to explore normative rather than individual behaviours. Additionally, the interaction between participants in a FGD yields useful data (Cresswell, 2007; Power, 2002). Furthermore, FGDs can provide a more comfortable, less intimidating and non-threatening interview setting than one-on-one interviews, and thus can sometimes facilitate candid discussions of the topics of interest (Kreuger, 1994).

FGDs were used in the research presented in Chapters 5 and 6 to gather extensive information on the knowledge, attitudes, perceptions and practice around sexual behaviour, sexual risk, and PAI in the study communities.

## **Individual in-depth interviews**

Individual in-depth interviews (IDIs) allow a researcher to delve in considerable detail into the life experiences and views of selected individual respondents, in order to gain an understanding of the contexts in which sexual behaviours occur, using respondents’ own perceptions and explanations of the factors influencing their sexual behaviour (Power, 2002). IDIs provide greater depth and detail of information than possible in FGDs, and being more private, create an enabling environment for the individual respondent to express their views and share their experiences. IDIs used in this research followed an interviewer-led, semi-structured approach, to enable the discovery of unexpected themes, which highly structured interviewing approaches do not allow for. Although in the semi-structured approach the general sequence of the questions and topics is predetermined, interviewers use probes, which are helpful to delve deeper into the subtleties of a participant’s

responses, and attain more expansive answers (Power, 2002). IDIs also provide the opportunity to discuss intimate sexual behaviours in a confidential manner (Collumbien et al., 2012; Patton, 2002).

IDIs were used in conjunction with FGDs to collect data in the study presented in Chapter 6; in this study the combination of IDIs and FGDs enabled us to delve further into the knowledge, attitudes, perceptions and practices surrounding anal sex in the study communities. IDIs were also used in Chapters 7, 8 and 9 to collect in-depth data pertaining to the participants' experiences with the VOICE study, with a focus on issues of non-adherence to the study product, as well as anal sex behaviours. The case study presented in Chapter 2 comes from a series of longitudinal interviews with one key informant (see narrative case study methodology section below).

## **Body mapping**

Body mapping is an interactive and participatory qualitative research technique that can be used in both FGDs and IDIs. Body maps and body mapping can be used as both a research product and a research process (Gastaldo et al., 2012). Traditional body mapping techniques involve getting research participants to draw life-size representations of their bodies, either as individuals or in groups, and using labels, colours, symbols and annotations to represent how participants relate to and perceive their bodies and their bodily processes (Cornwall, 1992). In addition, sexuality and sexual behaviour are experienced through and with the body, and therefore using reflexive 'embodied' techniques like body mapping can be useful in assisting a participant to relate to the research topic and to think and communicate reflexively about their experiences (Gastaldo et al., 2012).

Body mapping can also be a useful technique in building interviewer-respondent rapport and stimulating dialogue. When sensitive or uncomfortable topics are the focus of the research, using a technique such as body mapping assists in getting participants to relax and speak frankly. In terms of conducting research on sexual behaviour, itself a difficult and embarrassing topic, techniques such as these can help to dispel tension in the research setting. Where participants feel uncomfortable articulating words out loud for body parts, genitalia or sex acts, visual aids like a body map enable them to communicate non-verbally by using the visual aid.

In addition, body map-type tools can be utilised as visual aids to assist in the assessment of participants' understanding of questions and terminology (as in VOICE-D, Chapter 7). Two-dimensional pictures alongside text have successfully been used to improve comprehension of health messages in health education campaigns (Dowse et al., 2010). However it is important to recognise that diagrams, drawings, body maps and visual aids may be interpreted and received differently by participants depending on the literacy levels of the audience and the cultural context, and take this into account when designing research tools and activities.

Body mapping was used in the study whose data are presented in Chapter 5. Each FGD began with a body mapping activity, in which the group was presented with a life-size line drawing of the outline of a naked female (front and back view), and a naked male (front and back view). The participants were each provided with a marker pen, and were asked to label the body maps with words, terms and slang phrases, as well as stars, symbols and arrows, to indicate and denote sexual pleasure, sexual pain, sexual behaviours and so on. This activity served as an ice-breaker for the FGD, as well as a reference tool for the ensuing discussions (images of these body maps are presented in the appendices).

Body mapping techniques were also used in the VOICE-D study, presented in Chapters 7, 8 and 9 to supplement discussion in IDIs, to open participants up to discussion around their genital region and sexual behaviours. Additionally the body map template was used as a visual aid to clarify participants' comprehension and to ensure that the terminology was understood. In the data presented in Chapter 7, there is further discussion about the ambiguity of language and terminology, and the potential benefits that the use of visual aids in IDIs can provide in clarifying participant comprehension, and thus enabling researchers to have additional confidence in the results.

### **Narrative case study**

In addition to single one-time in-depth interviews, I also used a qualitative research method involving multiple *longitudinal* interviews with an individual key respondent, presenting this data in Chapter 2. The data presented in Chapter 2 is in the form a single *narrative case*

*study*, originating from three in-depth interviews with one participant, over the course of a year.

The narrative method is a version of story-telling, that helps to retrospectively organise an individual's lived experience into a coherent whole by using the thread of a plot (Tracey, 2007). By using a narrative approach to frame an individual story, one can create a "unified structure of meaning from a complex set of possibly contradictory and confusing events" (Tracey, 2007: 108). By simplifying and amalgamating disparate events and situations into one cohesive whole, it enables the emergence of patterns and common themes. Sandelowski (1991) described narrative as an interactive and interpretive product; in the telling of a story, events are given cohesion, meaning and direction. Bruner (1984) referred to the differences between "life as lived" (what actually happened), "life as experienced" (feelings, desires and meanings), and "life as told" (narrative). Descriptive narrative research therefore reveals not necessarily what actually happened, but rather how the research respondent themselves experienced, and explains their experiences and situations.

The qualitative case study approach enables one to perform an in-depth and multi-faceted investigation of complex issues in the setting of someone's life, and lived experience of the issues (Crowe et al. 2011). Making use of case studies can help researchers to deconstruct and reconstruct the specific phenomenon that they are studying, and situate it in its social context (Baxter & Jack, 2008; Power, 2002). In the process of collecting case study data, rapport is built between the researcher and participant, enabling the participant to tell their story, and describe their subjective perspective on reality, in turn enabling the researcher to better understand the participant's actions (Baxter & Jack, 2008; Zainal, 2007).

The longitudinal case study method refers to the process of conducting multiple interviews with the same participant/s over time. This process enables researchers to try and understand the psychological and intrapersonal underpinnings of an individual's behaviour and the social context and environmental factors that influence their behaviour and give it meaning. In longitudinal research, one is able to tailor follow-up interviews based on the analysis of previous interview data (Farall, 1996). By reporting back to a participant what they said in a previous interview, one is also able to get better quality data. Thomson (2007) suggests that in general, interview-based research is an imperfect way of studying behaviour and is subject to many challenges. The longitudinal approach, providing multiple accounts, "does not in itself resolve the problem that interviews are constituted through stories that

are told about life, rather than the life as it is lived. Yet the generation of multiple accounts over time does provide a rich source of understanding of the complexities of the storied life” (Thomson, 2007: 572). Qualitative interviews take the ‘actor’s point of view’ of experiences that they have had, and help the researcher to develop an understanding of the context of those experiences. Longitudinal qualitative interviews enable the researcher and participant to examine a sequence of past experiences, situations and processes as they are arranged meaningfully by the research subject, and in the process, try to understand some of the factors that may have influenced those situations and processes (Hermanowicz, 2013).

In terms of using the longitudinal case study method for this research, I have attempted to reach a subtle and situated understanding of heterosexual penile-anal intercourse in the context of one woman’s life. In the process I have tried to move towards an understanding of the processes of sexual decision-making and risk-taking, and the contextual factors that influenced and fed into those processes, which resulted in her engaging in heterosexual PAI. By using the case study approach in Patience’s story, we can try to understand many of the broader environmental and social issues pertaining to heterosexual PAI from the perspective of one woman in the sub-Saharan African context.

## **Literature Review**

Chapter 4 presents data from a review of the literature. This review is in two parts: the first looking at global sexual behaviour research, and the second focusing more specifically on 37 sexual behaviour studies conducted in Africa. The purpose of this review was to examine how specific sex-related terms had been defined and operationalised in sexual behaviour research. The review included the following steps: 1) identifying terms used for sexual behaviours, virginity, abstinence or sexual debut-related concepts; 2) analysing if and how these terms were defined in the article; 3) establishing whether PAI was mentioned or included in the terms used; 4) synthesising and situating these findings within a broader review of literature.

This review serves an important purpose in this thesis in laying the foundations for many of the terms, definitions, concepts, implicit assumptions and discourse relating to heterosexual PAI that are taken up and explored in more depth in other chapters.

## SAMPLE POPULATION

The table below gives details of the methods, sample, sites and dates for each study whose data is presented in this thesis. Further details of sampling and recruitment for each of the studies are provided in the methods section of each chapter. Additionally, specifics on the role I played in each activity are provided in Appendix 2.

**Table 3: Overall sample population**

	<b>East Africa study</b>	<b>VOICE-D</b>	<b>Masiphumelele study</b>
<b>Methods used</b>	- FGDs - IDIs	- IDIs - Body mapping - Demographic questionnaire	- FGDs - Longitudinal IDIs (narrative case study) - Body mapping - Demographic questionnaire
<b>Total participants</b>	369	88	23
<b>Male</b>	205	0	7
<b>Female</b>	164	88	16
<b>Participants in IDIs</b>	54	88	N/A
<b>Participants in FGDs</b>	315	0	23
<b>Data collection period</b>	May 2010	Dec 2012 – March 2013	Dec 2013 – Nov 2014
<b>Sites</b>	1. Mlolongo & Salgaa, Kenya 2. Malaba & Mbuya, Uganda 3. Dar es Salaam, Tanzania	1. Isipingo & Overport, Durban, RSA 2. Kampala, Uganda 3. Harare, Zimbabwe	Masiphumelele, Cape Town, South Africa

Figure 1: Data collection site map



Key:	
1. Malaba, Uganda	} East Africa study – Chapter 6
2. Mbuya, Uganda	
3. Mlolongo, Kenya	
4. Salgaa, Kenya	
5. Dar es Salaam, Tanzania	
6. Kampala, Uganda	} VOICE-D study – Chapters 7, 8 & 9
7. Chitungwiza, Zimbabwe	
8. Isipingo, Durban, South Africa	
9. Overport, Durban, South Africa	} Chapter 5
10. Masiphumelele, Cape Town, South Africa	

## DATA ANALYSIS

In seeking to describe and explain how various factors work together to produce sexual thought and practice with regards to heterosexual PAI in sub-Saharan Africa, I have followed a data analysis process that involves firstly describing the relevant processes and factors related to heterosexual PAI experiences, perceptions and practices, then drawing on theories to explain and interpret these processes and factors. Transparency in the processes of analysis and interpretation are important, as is recognition of the researchers' own lens and perspectives in these processes.

The approach I have followed has been informed by grounded theory qualitative research approaches (Strauss and Corbin, 1990). As laid out by grounded theory approaches, from the start I attempted to avoid pre-conceived 'off the shelf' notions or hypotheses about the data, attempting to ground the findings and the theories that developed from them in the data, developing and adapting theoretical models as necessary during the process of research (Strauss & Corbin, 1990). In this manner, I attempted, through synthesizing the study findings, to generate an abstract analytical schema of the processes that lead to heterosexual PAI practices. The ultimate goal of this kind of endeavour is to build a theoretical model can be used as a framework to inform the design of further research and HIV intervention activities (Creswell, 2007). In using this approach, I sought to move beyond merely describing the 'phenomenon' of heterosexual PAI in sub-Saharan Africa, and towards the development of a theory, grounded in empirical data, with which to understand the 'phenomenon' of condomless heterosexual PAI and thus inform HIV interventions targeting this high-risk sexual behaviour.

Clarke (2003) suggested a situation-centred approach to analysing qualitative data, arguing that social situations should form the unit of analysis in grounded theory when collecting and analysing qualitative data. This approach builds on grounded theory approaches, working to contextualise research phenomena individually, collectively, institutionally, temporally, geographically, culturally, symbolically, and discursively. I have used an approach similar to this, in taking the situation in which heterosexual PAI occurs as the unit of analysis, and endeavouring to situate this behavioural outcome individually, dyadically, socio-culturally, and discursively. In this research project, through interpreting the data,

comprising of behaviour, relationships, interactions and social processes experienced and enacted by participants, I have attempted to generate theoretical models which depict the processes that lead up to situations in which heterosexual PAI occurs. By using an approach similar to Clarke's situational analyses with which to analyse the data, I attempted to describe and understand the complexities, the key elements and the conditions of those situations in which heterosexual PAI takes place in sub-Saharan Africa and how that may relate to HIV prevention.

## Coding

A key part of the analysis process for qualitative data invariably involves the 'coding' of text-based transcripts of audio-files, field notes and other source documents. "Coding provides the link between data and the conceptualization" (Bryman & Burgess, 2002: 5). Coding refers to a tool or process that happens in various phases (Creswell, 2000). It is important to note that coding is only one part of the analysis process in qualitative research. As described in more detail below in the context of each study, the process of coding data was used in order to organise, condense and summarise the data, and in the process of extracting meaning and interpreting the findings. Analysis of data continues throughout the writing stage as well, as data is revisited and re-read continuously, with increased familiarisation of the data through each subsequent re-reading of the data allowing a deeper understanding.

The first phase of the process is 'open coding', which involves sorting the data into the key categories, finding patterns, anomalies and themes (Basit, 2003). The second phase of the coding process, 'axial coding', involves the selection of one of the open coding categories – the 'core phenomenon' – revisiting the data and creating further categories around this core phenomenon. Strauss and Corbin (1990) suggested that these further categories should include causal conditions (what factors caused the core phenomenon), strategies (actions taken in response to the core phenomenon), contextual and intervening conditions (broad and specific situational factors that influence the strategies), and consequences (outcomes from using the strategies). I have attempted to follow this process in the analysis of the data for this research; in other words, examining the factors that 'caused' heterosexual PA to occur, the actions taken to enable and respond to its occurrence, and broad and specific situational factors that influence these actions.

The last phase of the coding process involves making sense of the data and developing emerging interpretations (Basit, 2003). This phase of 'selective coding', is the part through which the theoretical model emerges, involving connecting categories and describing the interrelationships between them. In traditional grounded theory style approaches, coding the data serves as the fundamental analytic tool out of which a theory will emerge (Mills et al., 2006). The analysis of qualitative data is a complex, on-going process that runs parallel to the whole research project, and as grounded theory approaches suggest, helps the researcher to generate theories based on the data (Basit, 2003). The process that I engaged in to make sense of and interpret the data in this research project is reflected in the development of the theoretical models presented in the discussion chapter.

Data from the East Africa study and the Masiphumelele study were analysed primarily using an inductive approach, in which patterns and themes emerged from the data, rather than the data being sorted into pre-determined categories (Patton, 1980). As patterns and common themes emerge from the data, a researcher should reflect on how these relate to the study questions (Berkowitz, 1997). In reading and re-reading the data, additional questions and unanticipated themes emerge, new patterns and connections between themes surface, as on-going interpretation and analysis of the data continues (Berkowitz, 1997). However, despite commenting on how themes and patterns emerge from the data, analysis is inevitably framed by and reflective of, the research objectives, and the researcher's interests, experiences, and perspectives. Analysis can therefore never be wholly objective or inductive (Srivastava & Hopwood, 2009). In addition, the way in which a researcher interprets meaning from the data is dependent on their own frames of understanding, and the same data sets can be interpreted and analysed in different ways, from multiple angles depending on the particular research question and researcher's view (Berkowitz, 1997).

It is important to note here that analysis of the data from VOICE-D was slightly different from the other studies. Coding of the transcript data began with a preliminary codebook that had been developed by the research team. However this codebook was not static, and as coding progressed, the codebook was adapted and modified as new themes and codes emerged. The reason for using a codebook was two-fold: firstly, as there were multiple coders, it facilitated a unified coding process; and secondly, the codebook was modified from another study conducted by the same principal investigator, and a common codebook meant that the data from the two studies could be analysed together. Codebooks are useful

tools in when there are multiple coders. A codebook is a collaborative product that represents the coding analysis of the independent coders, and contains a list of codes and their definitions of each code, organized into major categories and subcategories; the codebook and categories are refined over the course of analysis in a dynamic process, and used as a reference by coders (Creswell, 2007; Saldaña, 2003). During the development of a codebook, categories and their definitions are proposed and reviewed by the analysis team, with an emphasis on achieving clarity and explicit guidance for code application. Before coding an entire data set, it is necessary to systematically evaluate the utility of the codes, and the coding team's ability to apply the codes in a consistent manner (MacQueen, 1998). Once the coding definitions have been tested by a process of establishing inter-coder reliability, coding continues with periodic checks for continued inter-coder agreement, with any inconsistencies reviewed and addressed by consultation (MacQueen, 1998). Further details of the codebook used in VOICE-D are provided below.

## **Study specific data analysis**

### *Narrative case study (Chapter 2)*

Data presented in the case study chapter comes from three interviews conducted with the same participant over the course of 12 months. After the first interview with the case study individual had been conducted, I transcribed the audio file, and familiarised myself with the data through 'immersion', reading and re-reading the transcript multiple times, inductively drawing out the key themes, and assessing how they linked to the other data I had already collected in the other studies, themes from the literature, and the key research questions. I established areas in which I felt it would be pertinent to explore specific aspects in further depth, and questions arose from my reading of the interview and of broader literature. In each subsequent interview with the participant I was able to unpack certain aspects in more depth, probe further on specific issues, resolve inconsistencies in the narrative, and verify that my interpretation of the informant's story was accurate and reflective of her experiences. The data from the three interviews was collated, arranged into key themes, events and occurrences, and written up into one narrative case study. Additional data from the preliminary FGDs and IDIs were added to the case study data to provide contextual background to the case study, where relevant.

### *Masiphumelele Study (Chapter 5)*

Data collected in this study included FGD transcripts and body maps. Audio files of the FGDs (conducted in English) were transcribed verbatim. Data analysis followed an iterative process, with key themes emerging from a thorough reading of the data. As discussions covered a broad range of topics related to sex and the behaviour of young people in the community, during data analysis, I chose to focus only on the key thematic areas that are relevant to the broader thesis focus and research questions. Body maps were used as supplementary data, although their purpose was largely as an ice-breaker and rapport building mechanism during FGDs.

### *East Africa Study (Chapter 6)*

Audio files from IDIs and FGDs were translated directly into English by the local research teams. I read through the English transcripts and coded them using an iterative thematic coding process, with the basic codes based on the study objectives, and subsequent codes emerging from the data. Although I was the sole coder for this data, during the analysis process, I was in on-going consultation with the field research teams, in order to ensure that my interpretation and understanding of the data matched theirs. Out of the key themes and patterns that emerged from the data, we assessed how these related to the study aims and questions. Although the data covered a range of topics, for the purposes of this doctoral research project I focused on the data pertaining to heterosexual PAI.

### *VOICE-D Study (Chapters 7, 8 and 9)*

As VOICE-D was a multi-country, multi-site collaborative project, a standard operating procedure for data management was developed to ensure consistency across the sites. Additionally, as VOICE-D was conducted under the auspices of the Microbicide Trial Network, and funded by the NIMH, there were strict requirements with regards to the methods and processes used.

The primary source of qualitative data used in the analysis of VOICE-D data consisted of raw textual data (transcripts of audio files), combined with annotated body maps, and field notes from the interviewers. Interviews were audio-recorded with permission from the

participants. The data was then managed according to the steps outlines below. In this section DTHF denotes the Desmond Tutu HIV Foundation in Cape Town, where ZD (myself) was the key personnel; RTI denotes RTI International in the USA, the data coordination centre for the study:

**Data management steps for VOICE-D:**

1. Interviewer downloads interview audio file from recorder to site computer
2. Audio file uploaded by site onto FTP server
3. DTHF & RTI download audio file onto secure hard drive
4. Audio file transcribed by DTHF Transcription consultant into Original Language Transcript
5. DTHF sends Original Language Transcript directly to Interviewer (or via Coordinator) for review
6. Interviewer or Coordinator sends reviewed/approved Original Language Transcript back to DTHF
7. Reviewed Original Language Transcript translated by DTHF Translation consultant into English Transcript
8. DTHF sends English Transcript to Interviewer (or via Coordinator) for review
9. Interviewer or Coordinator sends reviewed/approved English Transcript back to DTHF
10. DTHF quality checks English Transcript (spell check, language check, formatting)
11. DTHF sends reviewed English Transcript to RTI for Quality Control (QC)
12. RTI sends Interviewer or Coordinator English Transcript with QC comments
13. Interviewer addresses RTI comments on English Transcript and sends back to Coordinator or directly to RTI
14. RTI does final review, declares English Transcript complete when all comments have been addressed

As shown in the steps above, we took great care in the translation process. After interviews were conducted, the audio file was transcribed into its original language. This transcript was reviewed by the interviewer, and only then translated into English. The reason that the data management did not follow the usual process of translation (either having a translator in the interview itself, or having a translator perform a simultaneous transcription-translation of the audio file) was because we recognised the importance of accuracy in language and interpretation of the data, particularly where participant interpretation and comprehension of language and terminology was one of the study focuses. Additionally the original language transcripts were considered important source documents for reference to the specific words and phrasing that participants used. The vital role of the interviewer in reviewing both the

original language transcript and the English transcript ensured that a translator (who would not have been present in the interviewers) did not misinterpret the contexts of words. Additionally the interviewers were able to refer to their interview field notes and de-briefing reports for each interview, and add important detail to the transcripts regarding participants' body language, behavioural cues, and any additional information that may have been useful.

Once the English language transcripts were finalized, they were coded using the qualitative data management computer software NVivo 10. VOICE-D transcripts were coded first through descriptive coding for key themes and topics, using the preliminary codebook. During the study development stage, a set of preliminary codes had been developed based on the research questions. The analysis coding structure reflected the topics/themes covered in the interview guides. After the initial interviews were completed, each analysis team member applied this initial set of thematic codes to a common transcript, discussed their coding experiences (via email, and conference calls), and agreed on expanding and modifying code names and definitions when necessary. Additional codes were identified through an iterative process of reading the textual data and identifying emergent themes, and the codebook was modified accordingly. In addition to descriptive codes, pattern codes, which achieve a greater level of abstraction, were used to start linking themes and topics together in order to explore relationships in the data. Once finalised, this codebook was used for a final re-coding of all of the transcripts.

#### **Inter-coder reliability in VOICE-D**

The process of analysing qualitative data is inherently subjective. In order to ensure reliability of analysis, working with more than one person enriches and refines the analysis and enables a critical reflection on interpretations of the data. In the analysis of data from VOICE-D, a process to ensure inter-coder reliability was carried out. The analysis and coding was done by the investigative team, working interactively through emails, and regular phone meetings. The coding process involved a core team of three analysts who frequently communicated (via email and conference calls) to discuss their use of the codebook and application of the codes during the coding process. A pre-selected number of transcripts were double-coded by at least two coders to establish intra-coder and inter-coder reliability. Inter-coder reliability measures were automatically generated in Nvivo. Following this process, the coding team discussed any coding discrepancies, each of which were ultimately

resolved through discussion and consensus. This process continued until the inter-coder reliability was sufficiently high, defined as 80% or above. Thereafter each remaining text was coded by one analyst using Nvivo 10. Regular discussions among the coding team ensured that coding remained standardized and reliable. The findings and interpretations of the data were critically discussed until there was group consensus on the dominant themes and meanings contained in the data.

# THEORETICAL FRAMEWORK GUIDING THE METHODOLOGY

In this section I will describe the theoretical underpinnings to the thesis. The theoretical framework outline below guided the design and selection of data collection activities and data analysis processes.

## Theories of Sexuality and Sexual Behaviour

In this thesis I refer to a range of socio-behavioural theories that have framed my analysis and interpretation of the data from the three studies, in order to address questions pertaining to the specific motivations and circumstances that influence heterosexual penile-anal intercourse in sub-Saharan Africa and the engagement in related practices. In the discussion section of the thesis (Chapter 10), I link these theories to the object of study, the 'phenomenon' of heterosexual PAI in sub-Saharan Africa. By drawing on existing social and behavioural theories, and discussing how they relate to the study findings, I propose theoretical models with which to interpret and explain the findings as a whole, and as such move towards an understanding of heterosexual penile-anal intercourse practice in sub-Saharan Africa.

I begin this section by discussing individual-level theories, which in the past have been used to inform and guide HIV prevention activities globally. These individual-level theories include those attempting to explain motivations for sexual behaviour, and individual sexual decision-making. I provide some background on the ways in which these individual-level theories have been useful, and also explain the reasons that they have been criticised. After describing the benefits and shortcomings of individual-level theories, I then move on to set out some of the key structural theories that have guided my analysis, including social constructionism, social and sexual norms, and heteronormativity. Having given an overview of these theories, I move on to discuss socio-behavioural theories, with a specific focus on sexual scripting and gendered power. The section ends with a discussion of multi-level theories, and how I have adapted aspects of these in my own development of models with which to explain the findings from this research.

## Individual-Level Theories

### Individualistic approaches to understanding sexual decision-making and sexual risk-taking

The bulk of HIV prevention interventions to date, specifically those framed as 'behaviour change' interventions, have been informed by individual-level theories and cognitive psychological models that seek to explain individual risk perception and risk-taking. There has been much critique of these individual-level theories, as elaborated on below. However the rationale for including these theories in this section is that they have played an influential role in public health and HIV interventions, and despite their short-comings, have made an important contribution to the field of sexual behaviour research. Individual-level theories, also known as 'cognitive' or 'intrapersonal' level theories, relate to the process of 'knowing' and 'perceiving', referring to the attitudes, perceptions, expectations and intentions of the individual (Coreil, 2010). Although these perceptions and attitudes are influenced by socio-cultural contexts, there are also aspects of individual psychology and agency that cannot always be explained by social norms and cultural frameworks. In this section I shall outline some of the theories that have underpinned HIV interventions, specifically as they relate to sexual behaviour, sexual risk-taking and heterosexual PAI in particular.

Many individual-level theories have focused on describing the motivational influences on individual sexual risk-taking behaviours. In the context of each sexual encounter, individuals make a series of decisions and negotiations based on these motivating factors. Literature on motivations for individuals to engage in sexual intercourse fall into four thematic areas (Katz & Tirone 2009; Patrick & Lee, 2010; Ronson et al., 2012; Sanchez, 2012):

- 1) Physical or 'enhancement' motives: sexual urges, pleasure, physical connectivity with partner, physical relief and excitement
- 2) Emotional or relationship focused reasons: emotional connectivity with partner, intimacy, expression of love, and communication of feelings
- 3) Relational motives: perceived obligation to have sex, desire to satisfy partner's needs, and relationship maintenance
- 4) Psychological motivations: escaping from negative emotional states, wanting to feel desired and valued, coping, and boosting self-esteem

Evidence suggests that there are gender variations in individual motivations for sex, with men being more motivated by factors such as desire, sexual arousal, physical pleasure and social status; in contrast to women who are more motivated by intimacy, comfort, expressing affection, feeling valued and the desire to form and maintain intimate relationships (Amaro, 1995; Norris et al., 2004). Motivating factors also differ for different types of sex in different circumstances (Cooper et al., 1998).

In addition to describing factors that motivate individuals to engage in sexual intercourse, studies have demonstrated that sexual risk-taking is influenced by motivations such as love, desire, pleasure and sexual arousal, intimacy, providing and receiving comfort, feeling and expressing affection, and feeling valued (Cooper et al., 1998; Eyre & Millstein, 1999; Patrick & Lee, 2010). Importantly, HIV prevention behavioural research has largely focused on the negative, 'risky' aspects of sex, on risk-taking and negative health outcomes. In reality, sex acts are often motivated by goals and outcomes unrelated to physical health such as physical pleasure as well as "seeking intimacy, enacting gender roles, achieving adult status, securing social validation, and experiencing love" (Morrison et al., 2014).

### **Situating the Individual in the Social Context**

Individual-level theories are generally based on the assumption of rational reasoning on the part of the individual actor, and in doing so, often take the individual actors out of their social context of 'real world' situations and environments (Patel et al., 2006). Critiques of individualistic cognitive, rational and objective reasoning-based theories have been made by alternative theoretical frameworks that situate the individual in the social context, placing the individual and their decision-making in terms of the situational context, and the interplay of social factors outside of and beyond the individual (Eaton et al., 2003; Rhodes, 1997). Sexual behaviours and risk-taking are informed by individual-level psychological factors such as self-efficacy; however all behaviours occur within specific social and contextual settings (Logan et al., 2002). Individualistic theories may help to describe and explain intrapersonal level factors influencing risk behaviour and decision-making, but do not provide a framework for understanding factors such as the broader socio-cultural contexts that play into those cognitive decision-making processes (Patel et al., 2006). Purely individualistic conceptualisations of behaviour ignore the ways in which "distal cultural

forces and expectations as well as more immediate social norms and patterns in the individual's network and specific situational factors affect sexuality and sexual behaviours” (Amaro, 1995: 440).

### **Situating the Individual in the Dyadic and Interpersonal contexts**

Individual-level behaviour models, based as they often are on assumptions that individuals act rationally and consistently and have agency to choose to their behaviours, typically fail to consider the inherently dyadic nature of sexual behaviour, and the processes in which individuals in a dyadic partnership influence each other, either unilaterally or mutually (Karney et al., 2010). The decision-making processes of individuals, particularly in the sexual arena, are necessarily enabled or constrained by interactions with sexual partners, in the context of power dynamics that are rarely equal (Patel et al., 2006; Rhodes, 1997).

Any theory attempting to explain sexual behaviour and sexual decision-making that does not take into account relational factors, the power relationships which inform behaviour and the dyadic negotiations inherent in sexual encounters is short-sighted (Morrison et al., 2014). “The individuation of risk reduction and responsibility fails to capture the contradictory and situated pressures of risk decision-making and obscures power inequalities in risk negotiation” (Rhodes, 2002: 86). Power and agency are not distributed equally amongst individuals, and therefore ‘rational decision-making’ and ‘individual choice’ are limited by structural factors such as gendered power (Rhodes, 1997). By failing to account for aspects of the gendered nature of power, as elaborated on in further detail below, individual-level theories negate a series of contextual social factors relating to gender that “shape the reality of risk and potential for risk reduction among women” (Amaro, 1995: 438).

Linking cognitive mechanisms and individual-level motivations to theories of sexual scripting and gendered power, evidence suggests that when assessing their personal risk, individuals tend to rely on interpersonal and situational cues (O’Sullivan et al., 2006). Sexual risk-taking for heterosexual PAI is also likely to differ from sexual risk-taking for PVI, for a range of reasons. This thesis attempts to unpack the nuances in the sexual risk-taking and the motivations that influence sexual risk-taking in relation to heterosexual PAI in the sub-Saharan African context.

## Social Theories

### *Social constructionism*

Humans, as social beings, are embedded in multiple social contexts and environments, from the smaller units of sexual relationships, friendships, families and peer groups, to the larger social groups of communities, to the even larger political, religious, and cultural contexts. These social contexts interact with individual characteristics to inform behaviour (Bearman & Bruckner, 2001). The social constructionist paradigm frames sexuality as a social construction, describing sex as biological function that is shaped by social forces (Coast, 2007). The ways in which individuals 'use' and experience their bodies as sites of sexual pleasure, and relate to sexual situations and sexuality are in constant flux, changing, adapting and modifying in response to fluid social contexts (Dallery, 1992; Villanueva, 1997).

In contrast to the social constructionist view, the essentialist view asserts that sexual behaviours, sexual orientation and sexual identities are primarily informed by biologically determined physiological differences between males and females. Social constructionist theory argues that sexual conduct is culturally acquired, rather than being biologically determined, and that sexual acts may have multiple meanings depending on their definition, context, cultural setting and timing. In addition to variation in individual definitions and understandings, socio-historical constructions also play a role in giving meaning to specific sexual experiences (Villanueva, 1997). Sexual activities are interpreted and imbued with different meanings depending on the social and cultural setting in which they take place (Carpenter, 2001).

It is not only behaviours that are ascribed meaning by social contexts, but also certain parts and areas of the human body are socially sexualised and eroticised, and social norms serve to regulate and place boundaries around which sexual behaviours are acceptable or not, and which parts of the body are appropriately sexualised (Blanc, 2001). The body parts that differ between the biological sexes – the penis, vagina and breasts – are usually deemed appropriately sexual once the process of puberty has progressed to a state of adult sexualisation (Blanc, 2001). The penis and vagina, which are categorised as being the 'sexual organs', are assumed to be a 'natural fit', disallowing the possibility of the 'naturalness' of the penis penetrating the anus (see later discussion on penile-vaginal normativity). The anus, male or female, occupies an ambiguous space in social sexualisation, being the same

between both sexes, and generally cast as a non-sexual, non-erogenous zone. The anus as a site of sexual pleasure is perceived to be the domain of the homosexual male, casting the female anus, and even more so, the heterosexual male anus, as non-sexual, or at least silently or inappropriately sexual (Richardson, 1998). These assumptions, as discussed further in Chapter 4, are present in the language and terminology used to discuss 'sex', for example with terms used like 'heterosexual intercourse' to refer to penile-vaginal intercourse (PVI), and 'homosexual sex' to refer to PAI (Richardson, 1998).

Some of the earlier models in the social constructionist paradigm took a social-cultural determinist approach, where socio-cultural forces were taken to be both homogenous within a society, and determining of individual and group behaviour. More recent conceptualisations of culture and social constructionism are more fluid and dynamic. In the past decade, social theory has moved away from the idea of a homogenous 'culture' as an internally coherent set of values and towards a more fragmented and dynamic view of culture (see Note on Language, Appendix 1) (Harding, 2007). Hannerz (1969) introduced the idea of 'cultural repertoire', in which each individual has their own unique repertoire comprised of the various forms of culture including norms, values, meanings and modes of action (Harding, 2007). Each social situation consists of multiple cultural models, which may be contradictory, from which individuals can select behavioural cues. Harding (2007) suggested that 'frames', ways of understanding how the world works, provide cues for interpreting behaviour and reacting to situations. The social constructionist based 'cultural influence model' refers to social norms or behaviour guidelines that reflect dominant cultural values, that encourage or restrict certain behaviours and determine what constitutes good/bad, proper/improper, desirable/undesirable behaviour (Auerbach et al., 2011).

### *Social and sexual norms*

**Social norms** refer to shared beliefs, rules and parameters, specific to certain socio-cultural settings, that define and differentiate what is normal from what is abnormal (Röndahl et al., 2006). Social norms are collectively held prevailing codes of conduct that either prescribe or proscribe behaviours that members of a social group should enact (Lapinski & Rimal, 2005). Social norms operate at multiple levels, for example: an individual's perceptions about how other people think one should behave (what kind of sex one should be having, with who,

and in what circumstances); perceptions about how others in one's social environment are behaving (what kind of sex you think other people are having); and an individual's internalized moral rules or codes (what kind of sex you think is good or right).

Social norms define 'deviance' or 'abnormality', and determine which behaviours contravene social norms (Bhugra et al., 2010). Sexual practices follow these shared social norms and cultural scripts, which frame certain types of sexual behaviour as being appropriate and acceptable, while discouraging others. Social structures or institutions such as religion and medicine encourage and discourage certain sexualities and sexual activities. Certain sexual behaviours are tolerated or accepted in certain social contexts, and which behaviours are defined as in contravention of social norm varies over time and between different sub-sets within that cultural or social setting, as well as between individuals within a single culture (Bhugra et al., 2010).

#### **The individual actor acting on social norms**

The way in which an individual interprets and acts upon perceived norms is subjective, and as collective social norms are not necessarily formally codified or explicitly stated, they are open to varying interpretation (Lapinski & Rimal, 2005; Glanz, 2008; Pariera, 2013; White et al. 2009). Various factors influence the extent to which an individual's behaviour is likely to be affected by or shaped by norms. For example if a behaviour is enacted in a private setting with no witnesses (masturbation for example), the views of others with regards to engaging or not engaging in that behaviour (injunctive norms) would only have influence in so far as they impact on the individual actor's internal attitudes or beliefs (Lapinski & Rimal, 2005). In the case of such private behaviours, individuals are likely to experience less pressure to conform to the expectations of others regarding what is appropriate or not. Because sexual behaviours tend to be enacted in the private space, social sanctions on inappropriate behaviours are difficult to impose (Lapinski & Rimal, 2005).

#### ***Heteronormativity***

I now introduce the concept of 'heteronormativity', and its connection to the framing and ordering of human sexuality. Chapter 4 includes an in-depth discussion of the heteronormative assumptions that have framed research on sexual behaviour, so here I will

simply lay out a few key points of the theory relating to social structures and norms below. In this section I explore the notion that social norms are one of the key mechanisms through which heteronormativity is enacted, and outline examples of two social institutions – religion and medicine – that have played a central role in the production and maintenance of heteronormative social and sexual norms.

**Heteronormativity** refers to a set of social norms, based on the premise of the gender binary, where men and women constitute two distinct and complementary genders congruent with their biological sex. Heteronormativity assumes that heterosexuality is the natural and normal sexual orientation, and provides models or frames for sexual behaviour through the medium of social and sexual norms and heteronormative standards (Glanz et al, 2008). The heteronormative view assumes an alignment between biological sex assigned at birth, gender identity, social gender role, sexual orientation and sexuality. Heteronormativity functions at many levels: individual, familial, community, social; and through numerous institutions or power structures such as the state, religion, education and biomedicine. If we consider heterosexism as a cultural structure which dictates the boundaries of presumed normal sexuality and prioritises and sustains heterosexuality as the dominant ‘normal’ and ‘natural’ form, we can see how it functions through silences, absences and omissions of anything outside of or challenging this norm (Habarth, 2008). As a result subordinate forms of sexuality become “perverse, remarkable or dangerous” (Epstein & Johnson, 1994: 198). Although paradigm shifts are gradually taking place, heterosexism still has a general cultural presence that is produced and reproduced through various societal institutions: religious institutions, medical knowledge systems, legal structures and education systems are amongst these.

### **Penile-vaginal normativity**

Heterosexual penile-vaginal penetrative intercourse between a man and a woman is presented as the normative sexual standard, and alternatives to this tend to be marginalised and silenced (Röndahl et al., 2006). The ‘coital imperative’ refers to “the centrality afforded to the ultimate objective of penetrating the vagina with the penis” (Hyde, 2007: 317). Orgasm attained through penile-vaginal penetration is accorded primacy as the desirable pinnacle of sexual pleasure in the hierarchical ordering of sexual acts (Hawkes, 1996).

What I have termed 'penile-vaginal normativity' refers to the assumptions made in language and research regarding terms such as 'sex', 'intercourse', 'virginity', and 'abstinence'. Chapter 4 reviews the literature and discusses the penile-vaginal heteronormative assumptions that have been made in the domain of sexual behaviour research in more depth. Linking to the sexual scripting theory, discussed below and in Chapter 8, I propose that penile-vaginal heteronormativity informs dominant sexual scripts, through defining which sexual behaviours are acceptable, and which are included or excluded from definitions of 'sex', 'intercourse', 'virginity', and 'abstinence'.

The generalised African HIV epidemic has commonly been referred to as a heterosexual sexually transmitted epidemic, in contrast to epidemics elsewhere in the world characterised by homosexual male sex, or by people who inject drugs. In the case of HIV transmission in Africa, the heterosexual normative assumption is that the transmission of HIV happens primarily through the vector of heterosexual penile-vaginal penetrative sex (Epprecht, 2008; Lorway, 2006). Socio-cultural heteronormativity and the penile-vaginal penetrative assumption, have influenced the design of health interventions, the provision of health care, as well as access to and experiences of health services (Knight, 2013; Roach, 2009).

### **Heteronormativity in biomedical discourse**

The biomedical system of knowledge pertaining to sickness, health and the human body is one social structure and institution which has historically had heteronormative underpinnings. The biomedical knowledge paradigm has played a significant role in defining the boundaries around what should be regarded as normal/abnormal and healthy/pathological in terms of human sexuality. In writing about the 'biomedical health system', I refer to the system of medical knowledge and practice on which the majority of global HIV prevention and treatment activities has been based. International health agencies such as the World Health Organisation (WHO) and the Joint United Nations Programme on HIV/AIDS (UNAIDS), use Western biomedicine's criteria, taxonomies, medical classifications, definitions and practices. These aspects of biomedicine are the "lens through which public health officials perceive and intervene in reality" (Rottenburg, 2010). The 'Western' biomedical health system reflects the social values within which heteronormativity has been institutionalised, and through its classification of pathology, health and normality, actively produces and reproduces heteronormative social norms (Hyde, 2007; Rönndhal et al., 2006).

The biomedical system presents itself as objective and value-neutral, but health workers, and the services they provide, cannot be totally removed from the socio-cultural context in which they are situated.

Medicalised classifications and standards of normality shape individuals' own experiences and interpretations of their personal health, physicality and sexuality (Rottenburg, 2010). Sexual medical norms, and socially normalised sexual behaviour patterns and sexualities, informed and perpetuated by biomedical classifications, have shaped the design of health programmes and health systems. Biomedical health service provision is shaped by heteronormative assumptions, evident in the attitudes and practices of health care providers' relationships with patients, as well as in stationary and data collection forms that are used to screen individuals for HIV and STIs, and assess their risk. Such data collection instruments generally ask questions based on a heterosexist and penile-vaginal premise. This biomedical 'clinical heteronormativity' also regulates the design of medical training curricula, protocols, funding priorities, project design, and health information.

### **Heteronormativity in religious discourse**

**Religion** is another social institution that normalises and maintains certain forms of social organisation and interaction, and through which heteronormativity has functioned, sanctioning certain sexualities and sexual behaviours. Religion has been a vehicle for the codification and legitimisation of heteronormative social norms and the control of social practices, and as such, is an important mechanism of social construction and social power. Religious institutions often serve as a foundation for community values and norms, and exert social control and regulation over sexual cultures, ideology and sexual norms (Wingood & DiClemente, 2000). Religion has shaped societal norms about normative sexuality, and through mechanisms such as Biblical and Koranic injunctions about procreation and reproduction, has framed penile-vaginal heterosexuality as the natural and normal order. Religious doctrines and discourse have historically constructed specific sexual acts as acceptable or sinful, healthy or pathological, placing restrictions and proscriptions on sex lying outside the boundaries of the officially recognised, condoned and doctrinally sanctioned institution of heterosexual marriage, and the accepted realm of procreative sex (Hawkes, 1996).

## Socio-behavioural theories

In the section above I have described some of the theoretical underpinnings to this research as they relate to socio-cultural and structural aspects that influence the framing of certain behaviours as socially acceptable or not, and that have informed the design and implementation of public health activities and HIV programming in particular. In the following section I outline some socio-cultural-level theories as they relate to individual behaviour, and contextual influences and motivational cues for behaviour, specifically sexual behaviour and sexual risk-taking. The key inter-related theoretical frameworks I focus on in this section, and examine in greater depth in Chapter 8 and the discussion, are sexual scripting, sexual agency and gendered power. Used together, these theories can help to build a picture of the ways in which gender-based behavioural norms, power imbalances and structural inequalities play out at the dyadic level in the relationship context (Pulerwitz et al., 2000).

### *Sexual scripting*

The first of the socio-behavioural theories I shall discuss is that of sexual scripting. Chapter 8 deals with sexual scripting theory as it relates to heterosexual PAI in depth, so I will not repeat what has been said in that chapter, but add a few points below.

**Sexual scripts** are culturally patterned behavioural sequences, or mutually shared conventions that are enacted by individuals in social encounters, and guide individuals to interdependently perform sexual scenarios (Dworkin et al., 2007). The three interrelated levels of scripts include:

- 1) Cultural scenarios, which are derived from diverse social and institutional sources and are the norms that guide sexual behaviour and sexual interactions at the societal level;
- 2) Interpersonal or dyadic scripts, which relate to the way in which mutual interactions shape sequences of sexual action in the dyadic context; and
- 3) Individual or intrapsychic scripts, which include individual interpretations of cultural norms, as well as motivational influences for sex such as sexual desire (Dworkin et al., 2007).

Sexual risk-taking behaviours are embedded in the scripting of sexual interactions, and thus using sexual scripts as a unit of analysis for safer sex practices is useful, since communication, decision-making, and the ability to shape one's own and another's actions are central to sexual negotiations (Dworkin et al., 2007; Hoffman et al., 2006). Sexual scripting theory can help to unpack the ways in which interpersonal/dyadic relationship contexts and gendered power dynamics influence the ability that an individual has to engagement in HIV risk-reduction practices (McLellan-Lemal et al., 2013).

*Scripts are one window into relationships and into the contexts that structure (and are structured by) heterosexual interactions. Research that further operationalizes domains in sexual scripts and links these to actual behavior may offer a unique contribution to the next generation of HIV/AIDS prevention. (Dworkin, 2007: 278)*

**Sexual agency** is a component of the sexual scripting theory and has been defined as the power an individual possesses to choose and control their own sexuality and sexual experiences (Baber, 1991; Laws, 1980). Power in this context refers to the personal power an individual has in interpersonal interaction and relational connections (Surrey, 1991). The agency or power that an individual has in the dyadic context can be termed 'relationship power', which is informed by gendered sexual scripts. Relationship power manifests in the capacity to dominate decision-making processes that affect both individuals, the ability to engage in behaviours against a sexual partner's wishes, or control the behaviour of a partner (Pulerwitz et al., 2000). Relationship power and sexual agency are not static or fixed, and are also contextual. It is important to understand the specific dynamics of relationship power and sexual agency experienced by women in Africa, and how this impacts on their sexual risk behaviour and exposure to HIV.

### ***Gender and power***

Linked to sexual scripting theories are structural theories relating to the dynamics of **gendered power**, which are a central determinant of sexual behaviour (Amaro, 1995; Connell, 1987). These theories describe 'consensual ideologies' relating to the power differentials between men and women, as well as gender-based behavioural norms and expectations (Rosenthal & Levy, 2010). Consensual ideologies refer to gender roles, socio-

cultural norms and expectations about gendered behaviour, generally agreed upon and accepted by society (Rosenthal & Levy, 2010). Gendered power theories frame gender-based inequalities as socially informed structures that manifest in men having power over women in various social domains, particularly in heterosexual relationships (Pulerwitz et al., 2000). Gender roles and norms influence, and even define the ways in which men and women act in the dyadic context, and are "important modifiers in how sexual encounters are negotiated and who determines which sexual practices will prevail" (Ehrhardt & Wasserheit, 1991: 99).

Both theories of gendered power and those referring to sexual scripting, posit that heterosexual sexual interactions are informed by unequal gendered power dynamics. Maticka-Tyndale et al. (2005) suggested that despite there being variations between cultural expressions of sexuality and sexual customs in Africa, there are some factors that cut across the cultural diversity, two of which are relevant to this research: 1) the imbalance of gendered power and expectations of female acquiescence to male authority, and 2) the commonality of coercive sex. "Ideologies about sexual behaviour vary greatly by culture, but across many groups, gender roles assert that women are and should be the passive acceptors of sex whereas men are and should be the controlling aggressors" (Rosenthal & Levy, 2010: 27).

*The majority of sexual behaviors in heterosexual relationships tend to follow a prescribed social script that reflects the cultural norm. In general, the dominant cultural script involves men performing a more agentic role than women, acting more as the initiators and directors of sexual activities who determine the pace of sexual interactions and what activities occur... In contrast, heterosexual women are expected to take on the "complementary" submissive role during sexual activity, which entails submitting to their partner's desires and waiting for their partner to initiate and direct... traditional sexual script typically affords men greater power and control during sexual interactions. (Sanchez, 2012: 169)*

Applying gendered power theories to HIV, some writers have suggested that women's vulnerability to HIV risk is affected by her woman's power in the relationship relative to that of her partner, and that there is a correlation between unequal gendered power distribution and women contracting HIV from male partners (Amaro, 1995; Rosenthal & Levy, 2010).

## Multi-level theories

Below I outline examples of theoretical frameworks and models which have attempted to account for the multi-level influences on individual behaviour, and more specifically, how they can be useful in understanding sexual decision-making, sexual risk-taking, and sexual behaviour outcomes that relate to heterosexual PAI in sub-Saharan Africa. A multi-level perspective takes into consideration how individual behaviour is influenced by micro-level intrapersonal / intrapsychic factors, meso-level interpersonal factors relating to relationship contexts and the dyadic unit, the family and peer group, as well as macro-level factors, such as cultural, economic, or societal influences (Kotchick et al., 2001). Weaving together the threads outlined above, it is important not only to consider individual/intrapersonal, dyadic/interpersonal, and socio-cultural factors into account, but also to examine the ways in which factors at all these levels interact with each other to impact on behaviour (Eaton et al., 2003).

### *Levels of influence*

Here I shall draw out aspects of various theories that have merged multi-level influences on sexual decision-making and sexual risk-taking behaviour, by taking into account both social-structural factors and cognitive-behavioural factors (Bandura, 2001; Eaton et al., 2003; Ewart, 1991; Norris et al., 2004).

To simplify these frameworks, I shall break influencing factors down into three major levels of influence on individual sexual decision-making, risk-taking and sexual behaviour:

- 1) **Micro-level:** personal / individual / intrapsychic / cognitive / psychological and physiological factors (including sexual arousal, knowledge and beliefs, perception of personal risk, self efficacy, perceived costs and benefits of behaviour, intentions, and self esteem);
- 2) **Meso-level:** the 'proximal context' consists of two subcategories:

- a. interpersonal / dyadic / relationship factors (including negotiating sexual behaviours, condom use, coercive and/or male dominated sexual relationships, and peer pressure);
  - b. physical and organisational environment (includes access to information and health services, and access to condoms and lubricants);
- 3) **Macro-level:** this refers to the 'distal context' (including socio-cultural and structural factors such as socioeconomic status and urban/rural demography, as well as socio-cultural norms, gender roles, and sexual scripting).

### *Interaction between level of influence*

In addition to considering multi-level influencing factors, it is important to consider the reciprocal interaction and interdependence between these domains of influence (Ewart, 1991; Traube et al., 2011). An individual's sexual decision-making and risk-taking behaviour are determined by a process in which intrapersonal factors combine and interact with factors related to gendered power and sexual agency, as well as with environmental influences and broader structural factors including socioeconomic status and education. "Multicausality involves codetermination of behaviour by different sources of influence, not causal dependencies between levels" (Bandura, 2001: 15). Physical environmental settings and social systems both affect and interact with biological structures and processes within the individual to create intrapersonal contexts that influence behaviour (Ewart, 1991).

### *Individual agency within these layers*

Individual sexual agency operates within a broad network of socio-structural influences; individuals have the agency within socially proscribed rules for subjective interpretation, enforcement, adoption, circumvention and even active opposition (Bandura, 1986 & 2001). In a given 'sexual situation', the individual social actor's appraisal of and reaction to the situation is informed by a set of interpersonal, environmental and contextual factors (Norris et al., 2004). The agency that an individual sexual agent has is largely determined by the interpersonal / dyadic context inherent in a sexual relationship. In the dyadic context the 'sexual scripts' of the sexual partners involved are interlinked and interdependent (Ewart,

1991). Sexual relationships entail a range of expectations and obligations that influence an individual's ability to carry out certain actions relating to health and risk aversion. Thus the dynamic, reciprocal relationships between individuals and their environmental contexts affect sexual risk-taking.

The discussion chapter (Chapter 10) includes further elucidation of the multi-level theories outlined above, as they specifically relate to heterosexual PAI behaviour and the multi-level factors and settings that influence sexual decision-making resulting in the behavioural outcome of HIV transmission through heterosexual PAI. In the discussion section of this thesis I draw together aspects of various of these theories described above, and propose a series of theoretical models with which to analyse and explain the results presented in this thesis.

# METHODOLOGICAL LIMITATIONS

Study specific gaps and limitations are noted in further detail in the discussion section in each of the chapters. This section outlines some of the gaps and limitations pertaining to the methods used across the thesis as a whole. In addition this section includes a discussion of the challenges in integrating and interpreting data across the various methods and studies included in the thesis.

## *Sample population gaps & limitations*

The samples in each of the studies were limited, though in different ways. The study specific limitations relating to the sample populations are as follows:

- Data presented in Chapter 5 comes from a small sample of both male and female young people aged between 18 and 22, who identified their home language as isiXhosa, Shona or Zulu. The sample did not include participants from other language groups, however the sample was fairly representative of the study community of Masiphumelele.
- Data presented in Chapter 6 was from a large and diverse sample across the 5 study communities and included males and female from a broad age range. Participants were recruited through their involvement in an HIV programme, sampling was purposive and may not have been representative of their communities.
- Data presented in Chapters 7, 8 and 9 was from an all-female sample from across three countries aged between 20 and 40 years. All participants had previously been enrolled in a biomedical HIV prevention trial, so may not be representative of their communities. Additionally their responses may have been influenced by their previous experience as trial participants and their relationships with study staff.

The findings presented in this thesis offer only limited male perspectives on heterosexual PAI. Data collected in Chapters 5 and 6 are the only views collected from male participants. Chapter 5 offers some insight, albeit limited, on the narratives of sexual scripts and gendered sexual dynamics in the words of young men. The majority of the data relates only

to the perspectives of women, and women's descriptions of perceptions and practice relating to PAI.

In this thesis are presented findings from research conducted in ten communities in five countries in sub-Saharan Africa. No claims are made as to the generalizability of these findings either within these countries, or across the region. However emerging clearly from the data were strong common themes, and thus it is likely that similar patterns would emerge in other communities, albeit with local idiosyncrasies. This research did not intend to be comparative between the countries, and thus the sample did not include comparable sample populations.

The sample selections for the studies included in this thesis were largely determined by the scope of the larger piece of research in which they were embedded. The benefit of this was that I had access to far larger and more diverse populations that I would have had as an independent doctoral student; however it also meant that I did not always have control over sample and methods selection.

### *Methodological limitations*

Any research on sexual behaviour relies heavily on research participants to self-report their behaviour to researchers. Although various methodologies can be used to improve reporting (see discussion in Chapter 7), social desirability bias is likely to affect the accuracy of such data, regardless of the methods used. Due to the taboo and social stigmatisation of heterosexual PAI, social desirability bias is likely to feature even more in the reporting of this sexual behaviour. However, for the purposes of answering these research questions, accurate reporting on frequency of PAI behaviour was not necessary, as the aims of this study related more to describing to socio-cultural context of PAI, how it is conceptualised, and the multi-level factors that influence motivations to engage in it.

Another limitation that needs to be noted relates to language. I am an English-speaker, and am not fluent in any of the other languages in which data was collected. In cases where interviews were conducted in languages other than English, I was reliant on other interviewers and translators. After the language aspect emerged as a critical theme, as much as was possible, I drew on the input of the interviewers who had conducted the research, as well as others fluent in the language in question. In the VOICE-D data, I was able to re-visit

the original language transcripts, in parallel with the English-language transcripts, to unpack the nuances in language and terminology. This was not possible in the data from East Africa, where the audio files had been directly translated into English.

Regarding language and methodological limitations, it should also be noted that where data was collected in English, and I conducted the interviews myself, namely the interviews with Patience and the FGDs presented in Chapter 5, English was not the first-language of the research participants. This is important because it would have limited the ability of participants to explain their views and experiences in the language most accessible to them, consequently limiting the richness of the data relating to terminology.

### *Integrated analysis and interpretation across studies*

Multiple methods were employed in collecting the data presented in this thesis. The methods between and across studies were not comparable, but as the research evolved over a five-year period, my understanding of the topic increasingly deepened, and in each subsequent phase of data collection and analysis, I was able to delve deeper into the interpretation of the emergent themes.

It is important to recognise the local and contextual specificity of the findings (Myers, 2000). Heterosexual PAI as a phenomenon is embedded in the specific social contexts in which it takes place. This thesis describes the phenomenon of heterosexual PAI across various sub-Saharan African contexts, and though I make no claims as to the transferability and generalizability of these findings outside of their empirical contexts, analysed first separately, and then together, the results from the various studies were largely complementary and consistent, and lent themselves to the synthesis and integration presented in Chapter 10.

Using multiple research methods enables researchers to add breadth and depth to their understanding of a research topic (Mason, 2006). In each study presented in this thesis, methods were chosen for their specific suitability to addressing the objectives of that study. The experience and lived reality of heterosexual penile-anal intercourse are themselves complex, nuanced, multi-dimensional and multi-layered. The combination of research methods used across the thesis as a whole, has facilitated a deeper and more holistic and in-

depth understanding, or *thick description*, of heterosexual PAI within the social contexts in which data was collected (Jick, 1979). The different layers of data add to the overall findings and enrich the final integrated analysis presented in Chapter 10. By using various data collection methods, and inductive in-depth analysis informed by various social theories, the overall findings are able to describe the complexity of heterosexual PAI as a phenomenon.

## CHAPTER 4

# Defining sex, virginity and abstinence: where does anal sex fit in and what are the implications for HIV prevention?

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### SYNOPSIS

This chapter reviews the sex research literature, in an examination of how the terms 'sex', 'virginity' and 'abstinence' have been conceptualised and used in sexual behaviour research. This review is in two parts: the first looking at global sexual behaviour research, and the second focusing more specifically on 37 sexual behaviour studies conducted in Africa. This review examines the sex-related terms used in research articles, and the ways in which they were defined. The analysis of the review includes a discussion of the way in which the heteronormative penile-vaginal penetrative assumption has permeated sexual behaviour research.

The decision to conduct this review followed the realisation that terms such as 'sex', 'virginity' and 'abstinence' have been narrowly defined, when defined at all, in sexual behaviour research. The purpose of this review was to first identify and then to examine terms and definitions used in social and behavioural research focusing on *heterosexual sex*, and establish how PAI is situated within conceptualisations and definitions of *sex*, *virginity* and *abstinence*. Through identifying and analysing the use of terms and definitions for sexual acts, as well as virginity related terms in peer-reviewed empirical literature, this review demonstrates the extent to which deeply entrenched heteronormative and penile-vaginal

penetrative assumptions have permeated scientific literature on sexual behaviour. Implications and recommendations for future research, policy and clinical guidelines are stated at the end at the review.

This chapter's contribution to the overall thesis is multi-fold. Firstly in reviewing the literature, this chapter closely examines some of the key terms, definitions and concepts integral to sexual behaviour research. In doing so the findings highlight the extent to which sexual behaviour research has been framed by deeply entrenched assumptions about how certain concepts are defined and conceptualised. These definitions and their operationalization have an effect on scientific understanding of sexual behaviour and sexual risk-taking, as well as having an influence on individual behaviour and sexual decision-making. Furthermore, the precise definition and conceptualisations of sexual behaviour terms are important because of their impact on informing and shaping public health research and interventions. This chapter lays the foundation for some of the key concepts at the core of this thesis, many of which emerge in their 'real-life settings' in other chapters.

## ABSTRACT

HIV prevention efforts, particularly in Africa, have focused on reducing HIV transmission through sex. With women and adolescents identified as key risk groups, much of the attention has been on promoting safer sex, reducing sexual partners and delaying sexual debut. Penile-anal intercourse (PAI) is the most efficient way of transmitting HIV sexually and potentially accounts for a large proportion of HIV infections in Africa and elsewhere. Terminology and definitions of sex acts in research and clinical practice remain inconsistent and ambiguous, and it is often unclear as to how PAI is situated. This literature review focuses on the concepts of *sex*, *virginity* and *abstinence*, and examines how these and related terms have been defined and operationalised in socio-behavioural research on sex. The aim of this review was to identify and examine the ambiguity of conceptualisations and definitions used in sex research. This review comprises two parts: the first is a review of sexual behaviour research literature broadly, and the second is a specific examination of 37 empirical studies conducted in Africa. By reviewing the 37 research papers from Africa, along with broader literature, I examine how PAI is configured within terms related to *sex*, *virginity*

and *abstinence*. The findings show that the bulk of sexual behaviour research does not define which sex acts are included under terms for *sex*, or considers these to refer only to penile-vaginal intercourse (PVI). Findings illustrate the depth and breadth of the implicit assumptions that have been made in the use of sex-related terms in socio-behavioural research, with the dominance of penile-vaginal intercourse (PVI) and heteronormative conceptions of *sex* and *virginity* being evident. In concluding, I explore the potential implications of these definitions and assumptions, and make recommendations for future research and HIV interventions.

## INTRODUCTION

The HIV epidemic in Africa is commonly understood to be primarily sexually-transmitted, and most HIV generalised prevention efforts have focused on *heterosexual sex* as the key transmission vector. Delaying *sexual debut* has been identified as an effective means of reducing adolescents' risk of negative health outcomes such as STIs, HIV and unplanned pregnancy (Cuffee et al., 2007; Humphreys, 2013). Adolescents in Africa are a high-risk group for HIV, and many adolescent-focused HIV programmes on the continent have concentrated efforts on promoting *abstinence* and delaying *sexual debut*. Women in Africa are also identified as a key risk-group for HIV infection, with transmission to women assumed to occur through '*heterosexual* (penile-vaginal) *sex*'. These statements rely on an understanding of what *sex* is and how it is defined. The ways in which sexual behaviour terms are defined in research and public health is central to ensuring accuracy of reporting and efficacy of interventions. The concepts of *sex*, *virginity* and *abstinence* are integral to sexual and reproductive health issues, especially the sexual transmission of HIV and STIs.

Underlying these issues is the importance of understanding how sexual acts are defined and understood, as this is crucial to HIV prevention and clinical practice. The purpose of this review is to identify and examine terms and definitions used in sexual social and behavioural research focusing on *heterosexual sex*, especially research that has been conducted in Africa, and establish how PAI is situated within definitions of *sex*, *virginity* and *abstinence*. Through identifying and analysing the use of terms and definitions for sexual behaviour, as well as virginity-related terms in English-language peer-reviewed empirical literature, this review

demonstrates the extent to which deeply entrenched assumptions have permeated scientific literature on sexual behaviour.

The first part of this review entails an examination of literature from across the world pertaining to socio-behavioural sexual behaviour broadly. Specific research questions for this review of the literature include: 1) How are terms for *sex* defined and operationalised?; 2) How are terms related to *virginity* and *abstinence* defined and operationalised?; 3) How does penile-anal intercourse fit into these definitions?

## Review of global literature

In light of their importance, a number of authors have set out to examine how people define and conceive of sexual behaviour related terms (for example: Bersamin et al., 2007; Bogart et al., 2000; Byers et al., 2009; Carpenter, 2001; Collins-Fantasia et al., 2011; Faulkner, 2003; Gute et al., 2008; Haglund, 2003; Hill et al., 2010; Horowitz & Spicer, 2013; McPhillips et al., 2001; Medley-Rath, 2007; Mehta et al., 2011; Menn et al., 2011; Peterson & Muehlenhard, 2007; Pitts & Rahman, 2001; Randall & Byers, 2003). However, much of this research has itself been based on a series of implicit assumptions as to what the terms under examination include and exclude. Various sexual behaviour terms remain ambiguous and lack clear and explicit definition, such as *sex*, *intercourse*, *sexual intercourse*, *male-female intercourse*, *heterosexual intercourse*, *heterosexual sex*, *coitus*, *heterosexual coitus*, *copulation*, *penetrative sex* and *full relations*, amongst others. Additionally, a number of terms relating to the 'commencement of sexual activity' are also unclear: *onset of sex*, *sexual debut*, *first sex*, *sexual initiation* and related terms such as *virgin*, *virginity* and *abstinence*.

### *Definitions of sex*

Despite being widely used in research, clinical practice and everyday speech, there exists no uniform, universally-accepted definition of the word *sex*. Definitions of terms such as *sex*, *intercourse* and *coitus* are inconsistent, but most commonly rely on a heteronormative assumption of penile-vaginal intercourse between a man and a woman. Heteronormativity refers to a set of social norms that frames heterosexuality as the natural and normal sexual orientation (Medley-Rath, 2007). I use the term *penile-vaginal heteronormativity* to refer to the assumption that (normal) sex necessarily involves the full penetration of a woman's

vagina by a man's penis (partial penetration raises ambiguity in classification as sex or not) (Horowitz & Spicer, 2013; Peterson & Muehlenhard, 2007). Other sexual activities are usually excluded from the definition of sex, with ambiguity as to how penile-anal and oro-genital sexual behaviours are situated (Carpenter, 2001; Faulkner, 2003; Hans & Kimberly, 2011; Hill et al., 2010; Medley-Rath, 2007; Peterson & Muehlenhard, 2007; Pitts & Rahman, 2001; Sawyer et al., 2007; Trotter & Alderson, 2007; Underhill et al., 2009).

In some instances, studies that themselves focus on definitions and meanings of sex related terms, have made implicit assumptions about what these terms refer to. For example, some studies ask respondents questions about *sexual intercourse* and about *anal intercourse* as two separate questions (e.g. Woody, 2000), implying that for an act to be considered *sexual* necessitates a penis and a vagina.

Some researchers have recognised the limitation of terms such as *sexual intercourse* and the need to include non-vaginal sex, but then proceed to use terms in which there are similar implicit assumptions; for example: "this study focused on coital debut, yet adolescents may abstain from sexual intercourse while engaging in a variety of other sexual behaviours such as anal and/or oral sex that, unprotected, pose health risks" (Rostosky et al., 2003: 365). The statement implies, specifically with the use of the word 'other', that neither anal nor oral sex are included in the term *sexual intercourse*. Some authors attempt to circumvent these challenges by using different terms altogether, such as Smith & Shaffer (2013) who used the ambiguous term *intimate interaction* as a way to include sexual activities other than penile-vaginal sex. McPhillips et al. (2011) acknowledge how problematic some of these terms are in an endnote to their article examining definitions of *heterosexual sex*, *heterosex*, and *the coital imperative*. Recognising 'the priority of intercourse', the authors avoid using the word *penetrative*, without clarifying whether *coitus* and *intercourse* include penile-anal penetrative sex or refer only to penile-vaginal penetrative sex. While recognising the heteronormative assumptions in the terms *penetration* and *intercourse*, the authors proceed to assume that *coital* implies PVI, without actually clarifying that. Medley-Rath (2007) also used the terms *intercourse* and *heterosexual sex*, implying but not explicitly stating that these terms refer only to penile-vaginal penetrative sex, despite remarking on the inconsistency and ambiguity of such terms.

Findings from studies examining how people define *sex* that do mention PAI, demonstrate varying outcomes as to how *sex* is conceptualised by study respondents. Some studies have

found gender differences, with women generally more likely to consider PAI as having had sex (Gute et al., 2008; Sanders & Reinisch, 1999; Trotter & Alderson, 2007; Wright, 2011); “the male response may reflect discomfort with the subject together with the misconception that anal intercourse is a predominantly a gay practice” (Pitts & Rahman, 2001: 174). Contextual factors also influence definitions. For example one study found that the occurrence of orgasm by the male partner would be the key factor in defining the act as sex or not (Bogart et al., 2000).

### *Definitions of virginity*

Definitions of *virginity* and related concepts such as *abstinence* and *sexual debut*, are subject to many of the same ambiguities as terms for sexual acts. In the same way that research on *sex* has been underpinned by penile-vaginal assumptions, the bulk of research on *virginity*, *sexual debut* and *abstinence*, has also been based on assumptions around the centrality of the vagina and hymen to conceptions of virginity, without recognition of these assumptions or the possibility of other interpretations.

Central to the concept of virginity is *female anatomical virginity*, classified by the integrity of the hymen (a porous membrane covering the lower end of the vagina), despite the condition of the hymen being an unreliable indication of whether a vagina has been penetrated by a penis (Leclerc-Madlala, 2001; Medley-Rath, 2007; Wickstrom, 2010). Conceptualisations of virginity in Africa specifically are closely associated with the hymen, as evidenced by the existence of *virginity-testing* practices (Leclerc-Madlala, 2001; Wickstrom, 2010). LeClerc-Madlala’s (2001) ethnography on virginity testing practices in South Africa’s Kwa-Zulu Natal province described physical characteristics of the vagina that virginity-testers look for such as a white lacy barrier (the hymen), the colour of the labia and the size of the vaginal opening. Failing a virginity-test may result in social exclusion and shame, and jeopardised marriage prospects. As such, some girls take measures to ‘cheat’ the virginity-tests by inserting toothpaste into their vaginas to simulate the ‘lacy-white veil’ that testers look for (Leclerc Madlala, 2001). Notably, virginity-testing practices also exist outside of Africa, for example in Turkey (Cindoglu, 1997).

With the concept of female virginity in Africa and elsewhere so closely aligned with the vagina, this raises the question of how male virginity should be defined (see further discussion of this in Chapter 5). In another ethnography from Kwa-Zulu Natal, community

members claimed the existence of a traditional initiation rite serving as a male virginity test in which the penile frenulum (the elastic band of tissue under the glans attaching the foreskin) is inspected (Wickstrom, 2010). An explanation is not provided of whether this rite is meant to show whether a boy has had vaginal or anal sex, or indeed oral sex.

Aside from physiological indicators of virginity, such as the hymen or penile frenulum, there are behavioural and conceptual indicators for concepts of virginity. In keeping with heteronormative penile-vaginal penetrative assumptions, the 'innocent vagina' in a more general sense, is central to conceptualisations of the types of sex that constitute virginity loss for both males and females (Lichtenstein, 2000; Mavhu et al., 2008; Mehta et al., 2011; Schuster et al., 1996). Most classifications of *virginity loss*, *sexual debut* and *sexually active* in research are based solely on heterosexual PVI (Gute et al., 2008; Humphreys, 2013; Schuster et al., 1996). Schuster et al. (1996) recognised that the definition of *virginity* is not a given and that meanings range from "a person who has never had vaginal intercourse to one who is innocent, chaste, and moral" (p.1572). Despite recognising their limitations however, the authors adhere to these terms and definitions for convenience: "'virgin' is the standard term used in the scientific literature and is less cumbersome than phrases like 'a person who has never had vaginal intercourse'" (ibid).

The so-called 'commonly understood' definition of *virginity loss* as first PVI is at the core of widely made assumptions and is rarely explicitly defined; "usually, (study) investigators implicitly or explicitly state that the loss of virginity for the female somehow corresponds to the unspecified act of sexual intercourse, coitus, or full relations" (Berger & Wenger, 1973: 667). There remains ambiguity as to how sexual activities other than PVI are situated in conceptualisations of *virginity* and *virginity loss*, for example thigh sex (inter-crural sex), oral sex (oro-vaginal, oro-penile and oro-anal sex), or PAI, amongst others.

The cultural prioritisation and salience of the heteronormative penile-vaginal definition of *virginity loss* denies non-heterosexual people sexual maturity and *non-virgin* status rendering 'non-heterosexual', non-PVI sexual experiences as 'irrelevant and illegitimate' (Medley-Rath, 2007). Medley-Rath (2007) suggested that in popular U.S. culture, "neither oral sex nor anal sex are causes of virginity loss... virginity loss is constructed so that it can only be experienced through heterosexual sex" (ibid:34) (note that the definition of 'heterosexual sex' is assumed in the previous statement). It follows therefore, that sexual orientation plays a part in how an individual defines *virginity loss*, with non-heterosexual

people more likely to consider *virginity loss* being possible through non penile-vaginal sex such as oral and anal (Carpenter, 2010; Medley-Rath, 2007).

### *Definitions of abstinence*

Programmes focusing on delaying *sexual debut* and promoting *abstinence* have formed a large part of the history of HIV prevention efforts in Africa, and there has been much debate about their effects. A discussion on the merits and faults of abstinence programming is beyond the scope of this chapter, but it is pertinent to examine how *abstinence* has been defined and operationalised. UNAIDS has defined *abstinence* as “not engaging in sexual intercourse, or delaying sexual initiation” (UNAIDS, 2004 in Winskell et al., 2011: 945). In this definition, as well as in the bulk of abstinence-only sex-education, terms such as *sexual intercourse*, *sexual initiation*, and which sex acts are to be avoided if one is to remain *abstinent* are not clearly defined (Haglund, 2003; Medley-Rath, 2007; Peterson & Muehlenhard, 2007; Winskell et al., 2011). Evidence suggests that as a means of maintaining *virginity*, practicing *abstinence* and delaying *sexual debut*, young people engage in penile-anal intercourse (Carpenter, 2001; Pitts & Rahman, 2001; Rostosky et al., 2003; Sanders & Reinisch, 1999).

### *Inconsistent definitions of sex*

The inconsistency of definitions for sex-related terms not only affects sexual decision-making, but also has implications for the reliability of data in research. Assumptions are often made that research respondents share definitions with researchers, however “respondents may use their own idiosyncratic definitions of sex and therefore respond to research questions based on different opinions about what behaviours constitute sex” (Randall & Byers, 2003: 87). (See further discussion of issues relating to sexual behaviour reporting in research in Chapter 7).

Studies in which respondents are asked to classify certain acts or situations (such as the occurrence of orgasm) as sex are based on the assumption that people have clear and consistent definitions themselves. However an individual’s own definitions of sex are fluid and dependent on intention, context and factors such as: 1) characteristics of the individual defining the term such as gender, age, religiosity, ethnicity, HIV sero-status, sexual

orientation, past sexual experience, and sexual socialisation (parents' permissiveness); 2) gender of sexual partners involved; 3) situational factors; 4) the relationship context in which sex occurs 5) frequency of engagement; 6) occurrence of orgasm, who orgasmed and how; 7) whether the act was passive/receptive or initiative/insertive 8) whether the act was consensual or not; 9) whether the act should/would be classed as infidelity; and 10) who was judging the act (Bogart et al., 2000; Byers et al., 2008; Horowitz & Spicer, 2013; Mehta et al., 2011; Peterson & Muehlenhard, 2007; Pitts & Rahman, 2001; Randall & Byers, 2003; Rostosky et al., 2003; Sanders & Reinisch, 1999; Trotter & Alderson, 2007).

As well as being subjective and context-bound, definitions of *sex* related terms are also individually motivated. The same physical act may be defined in different ways by an individual depending on the anticipated consequences of the definition; an individual may change their definition in certain situations if the outcome is likely to be positive (Peterson & Muehlenhard, 2007). Definitions are also influenced by factors relating to the audience (clinician/researcher/sexual partner) whose interpretation of the term will be influenced by many of the same factors, as well as their own assumptions and expectations. The socially constructed nature of sexual scripts mean that different behaviours are defined as sexual and imbued with different meanings across cultures and societies. Both Carpenter (2001) and Faulkner (2003) argued that the ambiguities and contradictions in how sex related terms are defined and conceptualised are a consequence of the way in which society offers multiple co-existing sexual scripts, within which individuals have a degree of agency to negotiate their own definitions and identities (further elaboration of multiple sexual scripts can be found in the discussion section of the thesis, Chapter 10).

### *Inconsistent definitions of virginity*

Like *sex*, definitions of *virginity* are also fluid and subject to context, motivation and other situational factors. The way that *virginity loss* is defined, and the configuration of PAI within those definitions, appears to be contextually and situationally dependent. Studies from the United States have found that factors influencing the way in which individuals define 'virginity losing' behaviours include the individual's own previous sexual experience, their views on whether or not it was appropriate to lose one's virginity when 'in love' or not, and whether or not they have made virginity pledges; additional factors include whether the male partner ejaculated or not, whether the female's vagina was penetrated by anything

other than a penis, whether her hymen ruptured, whether she climaxed, and if so, who brought her to climax (Berger & Wenger; 1973; Brückner & Bearman, 2005; Wright, 2011).

Furthermore, the state of being a *virgin* or *non-virgin* has value that is dependent on context and various other factors; the value of these states also have an effect on how the terms themselves are defined. The social desirability or prestige attached to the status of being a virgin or non-virgin differs for males and females. For example virginity is often regarded as stigmatizing for male adolescents, but loss of virginity is stigmatising for female adolescents; which means males may be more likely to consider a greater variety of sexual behaviours as constituting virginity loss than females, as males are more eager to transition to a non-virgin status (Wright, 2011). The way in which individuals define virginity is subject to circumstance, people choose to disregard or modify the dominant definition of virginity loss to suit their own purposes (Medley-Rath; 2007). Individuals who consider *virginity* at marriage as important, or those adolescents who make virginity pledges, are less likely to consider behaviours like oral sex and anal sex to be *sex* and *virginity loss*, in order to maintain their virgin status and a positive identity (Wright; 2011). Virginity-pledging adolescents have been found to be more likely than non-pledging youth to have only PAI without having PVI, less able to make safe sex decisions, and less likely to use contraceptives and condoms (Brückner & Bearman, 2005; Rosenbaum, 2009).

### ***Inconsistent definitions of abstinence***

Like *sex* and *virginity*, *abstinence* is contextually and situationally defined; the way in which abstinence is defined differs throughout stages of adolescence and adulthood (Ott et al., 2006). Evidence suggests that *abstinence* is more of a fluid state than *virginity*; one study found that adolescents based their definitions on whether or not someone was *abstinent* on the period of time that had elapsed since they last engaged in sex (Bersamin et al., 2007). In one study from the U.S., African American adolescent participants stated that a couple could engage in PAI and still be considered 'technically abstinent', and "girls who had had anal intercourse without vaginal penetration could still be called virgins... 'because the vagina walls are not broken'" (Haglund, 2003: 234).

## Review of sexual behaviour research conducted in Africa

The second part of this review is a specific examination of 37 empirical sexual behaviour studies conducted in Africa, with the purpose of assessing the use of terms for *sex*, *virginity* and *abstinence*. Review of the articles included the following steps: 1) identification of terms used for sexual behaviours, virginity, abstinence or sexual debut-related concepts; 2) analysis of whether these terms were defined in the article or not, and if so, how; 3) establishing whether PAI was mentioned or included in the terms used. In the discussion section I synthesise these findings with broader literature.

### Methodology for review of African sexual behaviour studies

The methods for this review were as follows: peer-reviewed published socio-behavioural literature (both qualitative and quantitative) was searched using the library database search (OCLC WorldCat) at the University of Cape Town, South Africa. Articles were identified using various combinations of the following search terms: *sex*, *sexual intercourse*, *intercourse*, *coitus*, *coital*, *penetrative sex*, *heterosexual sex*, *heterosexual intercourse*, *vaginal sex*, *anal sex*, *virgin*, *virginity*, *sexual debut*, *first sex*, *abstinence*, *Africa*; these terms were searched on their own or in combination with each other, and also in varying combination with the following: *terms*, *terminology*, *definition*, *defining*, *conceptualisation*, *interpretation* and *understanding*. Included in this review are peer-reviewed articles published since 1994, to which the authors had full-text access, encompassing English-language empirical reports of research conducted in Africa. Titles and abstracts were examined to ascertain if the articles addressed sexual behaviour research, or discussion of definitions and terminology relating to sexual behaviour, as well as discussion of virginity and abstinence. The final number of studies included for review was 37. The final sample of articles were reviewed using the Matrix Method, a process for systematically reviewing literature that provides a structural framework to arrange and analyse literature according to content-specific characteristics (Garrard, 2011). The matrix for this review was developed according to the research questions with the following matrix columns: author/s; publication date; country; type of study; research focus; terms used; whether 'sex' terms were defined or assumed.

Table 12 presented in Appendix 3 lists the reviewed studies, details which terms were used, how and if terms were defined, and specifically, if terms such as *sex* or *sexual intercourse* were assumed to refer to PVI, explicitly defined as PVI, and/or if mention has been made of PAI. In the last column 'Assumed' indicates that no mention was made of a penis, vagina or anus in the articles, and terms such as *sex*, *intercourse* and *coitus* were not clarified.

### *Results of review of African sexual behaviour studies*

Table 12 demonstrates the implicit assumptions commonly made in the field of sexual behaviour, and the widespread use of unspecified definitions of the sexual behaviours under examination. Out of those articles included in this Africa-specific review, those that explicitly defined the term *sex* on the most part framed it as PVI exclusively, for example: “‘having sex’ is presumed to mean penetrative penile-vaginal intercourse as there are few references to alternatives in the abstinence-themed data” (Winskell et al., 2011: 949). Research participants in a study conducted in South Africa were asked: “Have you ever had sex? This means intimate contact with someone during which the penis enters the vagina (female private parts)” (Palen et al., 2008).

When non-PVI sex acts are mentioned they are referred to using other terms, implying that they are not included under terms such as *sexual intercourse*, as demonstrated by the studies in this review that mentioned PAI but excluded it from terms for *sex*. The terms *intercourse* and *coitus* are for the most part assumed to be synonymous with PVI, even though their literal meanings do not specify that (*intercourse* has Latin origin meaning *running between*, literally *exchange* or *communication*; the Latin origin of *coitus* refers to *meeting, uniting, coming together*). The assumption that *coital* refers only to PVI is made by a number of authors, who use terms such as ‘coital’ without defining whether it refers to PVI or PAI, or both (Cain et al., 2011; Delva et al., 2013; Wand & Ramjee, 2014). In a similar vein to assumptions that *having sex* means that a penis enters a vagina, the term *abstinence* is most commonly based on the occurrence of *heterosexual* PVI (Cherie & Berhane, 2012; Haglund, 2003).

One of the implications of the inconsistency in defining *sex* and *virginity loss* means that females who have engaged in PAI may be considered as *virgins*; some of these so-called *virgins* may have contracted HIV through PAI. Tennekoon (2012) set out to explain the so-called “HIV-Virgin puzzle”, the discrepancy between high HIV prevalence and low self-

reported sexual behaviour in national Demographic and Health Surveys (DHS), among young females in high-prevalence African countries. Assessing DHS data, Tennekoon explained that in the Southern African countries with amongst the highest HIV prevalence in the world (Zimbabwe, Kenya, Lesotho, Swaziland and Tanzania) 46.4% of female adolescents who are HIV-positive identify as *virgins*, claiming to have never engaged in *sex*. Tennekoon hypothesised that one explanation for these anomalies in the DHS data may be that HIV is being transmitted through acts that the respondent did not consider as 'having sex'. Tennekoon attempted to estimate the extent of misreporting by assessing the actual HIV prevalence rate amongst so-called *virgins*, and the extent to which HIV is transmitted sexually. Anal sex is only mentioned in a footnote: "note that by defining virgins as those who abstain from pre-marital sex we exclude 'technical virgins', who would not engage with vaginal intercourse, but would practice other risky sexual behaviours such as anal intercourse to preserve 'virginity' and avoid pregnancy. Some respondents may believe that the survey definition of sexual intercourse includes only vaginal sex and hence misreport their sexual behavior unintentionally"; no other mention is made of PAI or the possibility that some of the self-reported *virgins* who have never had *sex* but are HIV-positive, may be engaging in PAI (Tennekoon, 2012).

Research focusing specifically on how *sex* and *virginity* have been defined and conceptualised in African settings is sparse, and has largely focused on *abstinence* (Izugbara, 2008; Winskell et al., 2011); or language and metaphors around sex (Cain et al., 2011; Undie et al., 2007). Winskell et al. (2011) asked young people in six Sub-Saharan African countries to define *abstinence*. Some respondents interpreted the term to mean never having sex specifically in order to protect themselves from HIV; others associated abstinence with refraining from premarital sex, as outlined by their Christian beliefs. Another study, conducted in Ethiopia, provides evidence that young people choose to engage in non penile-vaginal sexual activity such as oral sex or PAI as a means of maintaining *technical virginity* and an *abstinent* status (Cherie & Berhane, 2012).

## DISCUSSION

As this review demonstrates, a large number of socio-behavioural studies conducted in Africa and elsewhere, examining sexual behaviour and topics such as *virginity* and *abstinence*, fail to define the terms they use, and specifically which sexual behaviours are included or excluded from the terms. Furthermore many of the studies are based on assumptions about how respondents define *sex*, with research tools presupposing definitions assumed to be shared by all respondents (Pitts & Rahman, 2001). “Definitions and interpretations of these terms remain ambiguous and the nuances between them are multifaceted... although their use is prevalent in sexuality literature, the terms “virginity,” “abstinence,” and “sex” lack... precision” (Wilson et al., 2013: 787). Although it is likely that many of the studies included in the review of African sexual behaviour research made use of translated data collection tools, the English-language articles in which their findings are presented, use the same terms and make the same heteronormative penile-vaginal assumptions as the literature from the United States and elsewhere.

### *Implications of inconsistent & ambiguous definitions for research*

Understanding how people conceptualise and define *sex* is vital for accurate and meaningful sex research. There are still gaps in knowledge around prevalence of and reasons for PAI; some authors also claim that due to poorly worded and ambiguous survey tools, available data on adolescent sexual behaviour is inaccurate, and many adolescents who reportedly have not *had sex* have already engaged in PAI and oral sex, but this information is not captured (Schuster et al., 1996). Most national DHS surveys provide data on sexual behaviour, without defining whether the *sex* is just penile-vaginal or includes penile-anal (the implicit assumption is that it refers to PVI).

The recent *South African National HIV Prevalence, Incidence and Behaviour Survey 2012* (Shisana et al., 2012), provides data on *sex* and age of *sexual debut*, but nowhere in the report is the term ‘sex’ defined. In addition, ‘sexual debut’ is referred to as “initiating sexual activity” (p.4), “sex for the first time” (p.65), and “onset of sex” (p.115), without defining what ‘sex’ is. The report also uses the term ‘virgin’, without defining what this term refers to

(p.147). The words 'vagina', 'penis' and 'anus' are also not mentioned anywhere in the report; the word 'anal' is mentioned once in an appendix (p.145) in reference to men who have sex with men (MSM). Questions on heterosexual PAI are sometimes left out of national DHS surveys and screening tools because they are deemed irrelevant or too offensive to ask (Mavhu et al., 2008).

### *Implications of inconsistent & ambiguous definitions for HIV programming*

The widespread use of ambiguous and undefined terms such as *sexual intercourse*, *sex* and *virginity* has implications for HIV interventions. Many HIV prevention programmes in Africa aimed at young people have focused on advocating delayed sexual initiation and abstinence; these programmes aim to discourage young people from engaging in sexual activity, encouraging them to delay *sexual debut* and maintain *virginity*, often without defining what they mean by these terms.

In 2006, after recognition of the ambiguity of definitions of *abstinence* used by policy makers and programme implementers in the United States, coupled with evidence that "adolescents were turning to 'alternate' sexual activity such as oral or anal sex to maintain their abstinent status", attempts were made to remove ambiguity in terminology used in abstinence education by defining the terms *abstinence* and *sexual activity*: "abstinence means voluntarily choosing not to engage in sexual activity until marriage. Sexual activity refers to any type of genital contact or sexual stimulation between two persons including, but not limited to, sexual intercourse" (Administration for Children and Families, 2006 in (Sawyer et al., 2007: 47).

In a review of abstinence programmes for HIV prevention in high-income countries, the authors referred to the heterogeneity of sexual behaviour definitions, and the problem of "ambiguity and selective reporting" as a result of "the use of non-specific outcome measures" (Underhill et al., 2009: 442). From their review of 39 trials evaluating abstinence interventions in high-income countries, the authors found only three examples of *sex* being explicitly defined in survey tools, with all three defining *sex* as PVI; the bulk of survey measures used ambiguous terms such as *intercourse*, *sexual intercourse*, *sexual activity*, *sexual relations*, *coitus*, *had sex*, *instances of completed sexual activity*, and *virginity*. The authors point to the failure of HIV interventions targeting *sexual debut* and *abstinence* in specifying what the terms *sex* and *abstinence* actually mean: "with very few exceptions, it

was unclear whether programs encouraged participants to abstain from vaginal, oral, and/or anal intercourse”, concluding that in order to accurately determine HIV risk it is necessary to develop and use unambiguous, specific and operationalised definitions (ibid, 452). Evaluation of the impact of programmes targeting sexual behaviour has also been poor due to the same lack of clarity; “when evaluations do address sexual behaviour the focus is often on penile/vaginal intercourse, and at other times not clearly defined (i.e. are you sexually active? have you had sex?). To really examine the effects of these programs on sexual risk-taking behaviour, we need to ask about other behaviours, like oral and anal sex” (Young, 2004: 152).

### *Implications of inconsistent & ambiguous definitions on clinical practice*

The way in which *sex* is defined also has clinical implications; specifically in HIV/STI risk assessment and sexual health service provision. The accuracy and reliability of data on sexual-histories and risk behaviour is questionable, impeded by the stigmatisation and cultural prohibition of non penile-vaginal sexual practices which often resulting in underreporting (Mavhu et al., 2008; Mehta et al., 2011). Current approaches for collecting patient sexual risk data are highly variable and imprecise: “without asking questions about specific sexual behaviours, a physician may not be able to assess a patient’s risk of sexually transmitted infection. Asked simply if she is having sex, a (patient) who does not consider her experience with oral–genital contact or penile–anal intercourse sex for herself might lead her physician to presume she is not at risk for sexually transmitted infection” (Gute et al., 2008: 336). In both clinical and research settings, asking patients/respondents if they have *had sex* is vague and open to interpretation; researchers and clinicians need to use biological, explicit, precise and unambiguous terminology in order to accurately assess a patient’s sexual risk (Menn et al., 2011; Sanders & Reinisch, 1999). “It is the responsibility of the researcher or clinician to exercise caution and use behaviourally specific language to ascertain accurate sex-behavior information from their participant or patient and not rely on the assumption that their own definition of the term “sex” is shared with their participant or patient” (Hill et al., 2010: 1250).

### *Implications of inconsistent & ambiguous definitions on sexual behaviour*

Public health interventions and scientific research tools fail to take into account the social,

cultural and historical contextuality of notions of *virginity* and definitions of sexual behaviour, and additionally have neglected to examine how these definitions influence sexual behaviour and sexual decision-making. Conceptualisations, subjective interpretations and definitions of *sex*, *virginity* and *abstinence* have an impact on sexual decision-making, sexual behaviour and sexual identity formation, as well as influencing sexual risk avoidance and condom use (Humphreys, 2013; Pitts & Rahman, 2001; Rosenbaum, 2009). Research and sexual health programmes have traditionally used the classification of an individual as *sexually active* based on PVI, meaning that *technical virgins* who are engaging in non-vaginal sexual activities are omitted from discussions on sexual risk, excluding many *sexually active* young people and consequently placing them at greater risk. Social pressure to remain a virgin is likely to contribute to young people's risk of infection by acting as a barrier to their adoption of preventive behaviours and encouraging alternative non-vaginal sexual practices. With the idea that neither oral sex nor PAI constitute *sex* or a loss of *virginity*, young people under societal pressure to maintain their *virginity* are more likely to engage in non-vaginal sexual behaviours, either oral-genital and ano-genital (Cherie & Berhane, 2012).

Furthermore, reasons for the substitution of oral sex and PAI in the place of PVI include perceived lower risk of adverse health or social consequences, in the presence of vaginal STIs, during menstruation, or as form of contraception; the belief that PAI is 'safer' than PVI, also means that PAI is sometimes practiced as a protective behaviour to avoid HIV transmission (Duby & Colvin, 2014; Hensel et al., 2008; Mavhu et al., 2008). Reasons for this misinformation may lie in the manner in which HIV prevention programmes and sex education have been worded, using terms like *sex* and *intercourse* which are assumed to refer only to PVI (Duby & Colvin, 2014) (see Chapter 6 for more discussion on this).

## RECOMMENDATIONS

As evidenced by the findings of this review, greater attention needs to be paid by clinicians, educators, researchers and policy makers to understanding exactly how people define and conceptualise sexual behaviour terms, as the implications of these definitions on sexual risk behaviour, sexual and reproductive health service provision, education and data collection are important (Schuster et al., 1996). The complexity and ambiguity inherent in the 'semantics of sexual behaviour', combined with the risks of HIV and STI transmission,

necessitate increased consistency and specificity, and the development of operationally defined terms that are clear and precise, leaving no room for misinterpretation (see discussion of supplemental visual aids to assess and assist comprehension in Chapter 7).

Examples of behaviourally-specific language might be:

- *When was the last time you had penile-vaginal intercourse? By penile-vaginal intercourse, we mean when a man inserts his penis into his partner's vagina.*
- *When was the last time you had penile-anal intercourse? By penile-anal intercourse we mean when a man inserts his penis into his partner's anus.*

Operationalised terms need to be physiologically precise, as well as sexuality neutral, so that accurate risk assessments can be made, and information can be imparted in a clear, unambiguous standardised manner. In non-English-speaking settings, great care needs to be taken to ensure that translated terms are accurate, precise and unambiguous (see Chapter 7 for further discussion on challenges presented by cross-cultural translation).

PAI, as well as oro-vaginal, oro-penile and oro-anal sex, need to be clearly and unambiguously situated in definitions of *sex* and *virginity* related terms, especially in research tools and clinical data collection instruments. Researchers in the field of sexuality need to be cognisant of the fluidity and inconsistency of sexual behaviour terminology, and increased attention needs to be paid to the variables and contextual factors that influence the ways in which sexual behaviour is defined and classified, particularly when it has implications for HIV and STI risk, such as PAI.

## LIMITATIONS

This review did not adopt a full systematic-review methodology but did use the explicit strategy of the Matrix approach, to review and synthesize key elements of the available literature for the Africa-specific studies, in a structured and transparent fashion. My search of the OCLC WorldCat database would have included a wide variety of sexual health research journals but I can make no generalizable statements about the scientific literature position of these issues as a whole. The reviewed African research articles only included empirical studies on sexual behaviour and definitions of sex related terms that were conducted in Africa, and published in English language peer-reviewed journals, to which I

had access. It is important to note that this review was limited to the published (in English) findings from research, and did not examine specific terms (in various languages) that may have been used in data collection instruments. This review does not account for the linguistic diversity and nuances in terminology and language across Africa, but deals specifically with the discourse of sex related terms in English language scientific research publication setting (Chapter 7 addresses issues of the ambiguity of sexual behaviour terms and the challenges this raises in cross-cultural multi-site research).

## CONCLUSIONS

The way in which sexual behaviour terms are defined, operationalised and interpreted has implications for clinical practice and research, and on sexual decision-making and behaviour. Behavioural HIV prevention programming entails the operationalization of concepts related to *sex*, *virginity* and *abstinence*. Despite its risks for HIV transmission, heterosexual PAI has been overlooked and excluded from research and clinical practice as a result of the implicit assumptions that are part and parcel of commonly used terms and definitions, as well as due to denial and taboo. The ambiguity and inconsistency of sexual behaviour terms means that HIV prevention information is often subject to misinterpretation, and thus risks being ineffectual. Where research on sexual behaviour uses ambiguous terminology, results may be inaccurate and invalid. The ambiguous terms that are currently used are not useful in accurately assessing sexual histories or risk behaviours, the continuing use of such terms means that accuracy of data is compromised. The penile-vaginal heteronormative definition of *sex* fails to encompass the varied sexual practices that humans engage in, or provide for the different boundaries that people draw around what constitutes *sex* and what does not. Despite its ambiguity and limited scope, this penile-vaginal heteronormative definition of *sex* has formed the basis of HIV prevention, education and health promotion activities targeted at the general heterosexual population.

The purpose of this review was not to criticise other researchers but rather to add clarity to the complexity and at times ambiguity of conceptualisations and definitions used in sex research. The findings from this review demonstrate that *sex*, *virginity* and *abstinence* are social and contextual constructs that are inconsistently defined, and that PAI occupies an ambiguous place within them. The majority of evaluations of sex-related terminology have focused on the United States and other high-income countries. This review adds a novel

aspect in examining these terms as they have been operationalised in research specifically conducted in Africa. This review chapter demonstrates the fluidity, complexity and inconsistency of sexual behaviour terms and definitions. Despite the imprecise meanings and various interpretations of sexual behaviour terms across individuals, they continue to be frequently used in our mainstream lexicon; and despite various authors alluding to the inconsistencies and ambiguities of sexual behaviour terms, the same terms continue to be utilised in research, public health policy and data collection tools, and in education.

## CHAPTER 5

# Talking about sex and virginity with young people in Masiphumelele

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### SYNOPSIS

This chapter presents the findings from focus group discussions held with young men and women in the Masiphumelele township in Cape Town, South Africa. Although this chapter does not have heterosexual PAI as its central focus and the sample size was small, I chose to include it in the thesis because the findings that emerged from the data speak to important aspects of the findings in other chapters. The findings presented in this chapter relate to specifically to two of the key threads in this thesis, namely sexual scripting and definitions of virginity. These findings describe sexual scripting and gendered sexual power dynamics experienced by young people in Masiphumelele. The findings suggest that elements of sexual scripts and gendered power are widespread, and although there are local idiosyncrasies, these sexual norms function at the core of sexual dynamics between heterosexual men and women across sub-Saharan Africa. The findings presented in this chapter illustrate the real life manifestations of the concepts discussed in Chapter 4, specifically with regards to the way in which the notion of 'virginity' is defined and conceptualised.

## ABSTRACT

In this chapter I present data from focus group discussions conducted in Masiphumelele community in Cape Town, South Africa. Four focus-group discussions (FGDs) were held with 23 young people aged 18 to 22 years (3 FGDs with young women and 1 FGD with young men). FGDs began with a body mapping activity aimed at making participants feel comfortable with the topic of sex, stimulating dialogue and group interaction, and getting the participants to reflect on their experiences and perspectives of sex. Discussion topics included attitudes towards different sexual behaviours, sexual norms and gendered power dynamics amongst young people in the community, and conceptualisations and definitions of 'virginity'. Findings demonstrate gender norms framing the male sexual role as initiators and controllers of heterosexual sexual encounters. Young men described the importance of demonstrating their sexual prowess and power to both peers and female partners. Female sexual roles were described as submissive, and in service of male sexual needs. Young women described their feelings of being compelled to have sex in order to satisfy male partners and maintain relationship security. Definitions of both male virginity and female virginity were inconsistent and debated. Findings shed light on heterosexual sexual scripting and gendered power dynamics that inform the sexual interactions of young people in this community. The findings are amongst the first to describe the inconsistency of conceptualisations and definitions of 'virginity' amongst young South Africans, and specifically how oral and anal sex are situated within definitions of sex and virginity. Understanding how terms and concepts such as 'sex' and 'virginity' are defined is critical in the design and implementation of appropriate HIV prevention activities targeted at young people.

# INTRODUCTION

An estimated 6.4 million South Africans are currently living with HIV, making this the largest epidemic in the world (Shisana et al., 2012). The Western Cape province of South Africa has a population of 6.1 million that is markedly diverse, ethnically, socially, religiously and economically (Stats SA, 2014). The Western Cape has a lower burden of HIV than other provinces in South Africa; the estimated HIV prevalence in the Western Cape is 5.0%, as compared to 12.2% in South Africa as a whole (9.9% amongst males and 14.4% amongst females nationally) (ibid). Nationwide, the highest HIV prevalence rates are amongst those living in urban informal settlements, and amongst those classified as 'Black Africans'. Amongst the age group that we are concerned with in this chapter, national HIV prevalence for 20-24 year olds was 11.2% (5.1% for males, and 17.4% for females) (ibid). Evidence indicates that the HIV epidemic in sub-Saharan Africa is being driven largely by new infections in adolescents, particularly young women, and that HIV transmission occurs mainly through 'heterosexual sex' (Ramjee & Daniels, 2013).

In terms of 'sexual debut' (usually defined as 'first sexual intercourse'), data from the *South African National HIV Prevalence, Incidence and Behaviour Survey* (Shisana et al., 2012) suggests that amongst 15-24 year olds nationwide, one tenth reported having had 'sex' before the age of 15, with the highest reporting of 'first sex' before age 15 amongst those living in urban informal settlements, and amongst 'black Africans'. The Western Cape was characterised by earlier 'sexual debut' than other provinces in the country, with 14.2% of 15-24 year olds reporting sexual debut before the age of 15.

Heterosexual penile-anal intercourse (PAI) is largely unaddressed as a potential driver of heterosexual HIV transmission in the context of South Africa. Scant data is available on the prevalence and practice of heterosexual PAI in South Africa, and national prevalence and behaviour surveys rarely provide data on PAI, despite its high HIV transmission risks. Terms such as 'sex', 'sexual intercourse', 'sexual debut', 'first sex' and 'virginity' are often used without being defined, and anal sex occupies an ambiguous and contested space within these definitions. The ways in which sex acts are defined and conceptualised have implications on sexual decision-making, sexual risk-taking and HIV interventions.

The aims of this research were to describe perceptions, attitudes, practices and experiences that surround sexual behaviour amongst young people aged between 18 and 22 in the community of Masiphumelele, Cape Town, South Africa. Using focus group discussions, I set out to explore language and discourse around terms and concepts such as 'sex', 'virginity' and 'virginity loss', specifically as they relate to heterosexual PAI.

## METHODS

### *Population*

Data was collected in Masiphumelele (formerly known as Site 5), a peri-urban settlement on the outskirts of Cape Town, in South Africa's Western Cape province. Unlike the majority of other provinces in South Africa, the Western Cape is characterised by a population in which 'black Africans' make up a minority (Nebergall, 2014). isiXhosa is the second most predominant language in the Western Cape, with 24.7% of the province's population claiming it as a first language (Nebergall, 2014). Twenty percent of the Western Cape's population live in informal housing structures (Stats SA, 2011). According to 2011 census figures, the population of Masiphumelele was estimated to be 22,000, 91% of whom categorised themselves as Black African, and 32% of whom were unemployed. 72% of the population in Masiphumelele live in informal structures (Stats SA, 2011).

Approval was granted for these research activities by the Human Research Ethics Committee at the University of Cape Town's Faculty of Health Sciences. Between October and December 2013, four single-sex FGDs were conducted (one FGD with young men and three with young women). Participants in this study were males and females aged between 18 and 22 years. A total of 23 participants took part in FGDs: 16 young women and 7 young men. Participants were recruited at a youth centre run by a local non-governmental organisation located in the Masiphumelele community. Participants were provided with refreshments and a supermarket voucher after completing FGD activities. Prior to commencing study activities, all participants were informed of the study aims and procedures, and signed informed consent for their participation, and for the FGDs to be audio-recorded. Each participant completed a brief questionnaire before participating in the FGD. Data from the questionnaires is presented in Table 4.

FGDs took place in a private room in an out-building within the youth centre property. Each FGD began with a body mapping activity, in which the group was presented with a life-size line drawing of a naked female (front and back view), and a naked male (front and back view); each participant was provided with a marker-pen and the group was asked to label the body maps with symbols, words, terms and slang phrases denoting sexual stimulation and pleasure, sexual pain, and sexual behaviours. This activity served as an ice-breaker for the discussions that followed on sexual behaviour, instigating dialogue and building rapport between the researcher and the participants, and amongst the participants. The body maps also served as reference tools for the ensuing discussions (images of a selection of the body maps are presented as appendices). FGDs followed a semi-structured format, there was a pre-existing interview topic guide, but discussions were not structured and questions did not follow any specific order. All the FGDs were conducted in English, although participants did speak amongst themselves in isiXhosa and Shona at times. Audio files of the FGDs were transcribed verbatim. Data analysis followed an iterative process, with key themes emerging from a thorough reading of the data. As discussions covered a broad range of topics related to sex and the behaviour of young people in the community, during data analysis, I chose to focus only on the key thematic areas that are relevant to the broader thesis focus.

## RESULTS

The data presented in Table 4 are from the brief questionnaires that each participant completed at the beginning of each FGD session.

**Table 4: Demographic characteristics of FGD sample**

Category	All FGD participants (N=23)
Mean age (range)	18.7 (18-22)
Mean number sex partners in last 12 months (range)	1.7 (0-6)
Mean number of lifetime PVI partners (range)	3.6 (1-12)
Mean age of first PVI (range)	15 (12-17)
<b>Condom use for penile-vaginal intercourse (PVI)</b>	
Never	22% (N=5)
Sometimes	74% (N=17)
Always	4% (N=1)
<b>Ethnicity</b>	
Xhosa	87% (N=20)
Shona	9% (N=2)
Zulu	4% (N=1)

In the section below I present some of the key themes that emerged from the FGD data that are relevant to the focus of the overall thesis, each of these is discussed in greater depth in other chapters of the thesis. The quotations presented below are direct quotes taken from the FGD transcripts. In these quotes “R” denotes a respondent, and “ZD” denotes myself, the FGD facilitator and researcher.

Norms around sexual communication were apparent in the way young people spoke about genitalia and sex acts generally. Young women remarked that they do not talk openly about certain personal sexual experiences with their friends, particularly about behaviours involving the genitals, as they believed that other people would “probably think you are a porn star or something like that” if you spoke openly about sex.

In discussing motivations for sex, there was gender variation. A recurrent theme in the FGDs with young women was the view that girls are mainly motivated to have sex with male partners out of a desire for relationship security, rather than out of a desire for the sensation of sex itself. In terms of sexual scripting (discussed more in Chapter 8), this is congruent with traditional gendered scripts of female responsibility for relationship security and maintenance. According to the female participants, young women often feel a sense of insecurity and vulnerability in their relationships, combined with a feeling of dependence on their partners and anxiety that they will be ‘dumped’ if they disappoint their boyfriends by failing to provide them the sex they demand and expect. The perceived importance of young women pleasing male partners to ensure relationship stability was clearly evident from the discussions. The young women in the FGDs suggested that girls often agree to have sex in situations when they don’t want to, for reasons such as making their boyfriends happy, male sexual satisfaction, and as suggested above, out of concern that if they don’t agree to have sex they will be dumped.

These findings suggest a gendered power imbalance between young men and women in sexual interactions. The young women described an inequity in emotional and relationship power, with the sentiment that girls are often more emotionally involved and dependent on boys than the other way round.

*Girls tend to love boys more than boys love them back... so then you do things (for him). (Female FGD)*

In terms of gendered power dynamics, the norms described by the young men and women were very much in line with traditional gendered scripts framing men as the active initiators during sexual encounters, even to the point of being aggressive; while women are depicted as the passive partners, submissive and receptive to their male partner's needs, and lacking in personal power and agency to control sexual encounters. The young women described the feeling that their own pleasure or satisfaction are not of equal importance to male pleasure during sexual encounters. The quote below comes from a discussion on pain during sexual intercourse, and illustrates the primacy and dominance of male sexual pleasure.

ZD: Is there anything that hurts during sex?

R1: *When he pushes hard...*

R2: *Like when he's stuck on you, and you're just pushing him to get him off... and you're like get off... (laughter) He's like "wait, wait 5 minutes" (he has not yet ejaculated), and you're like "get off me!"*

ZD: So what's hurting you then?

R2: *'Coz he's pushing hard, it's like hard, and he's like gripping on you...*

R1: *No it just hurts anyway... if he was like pushing hard.*

ZD: If he's going too hard, can you tell him that it hurts?

R3: *You can say like "stop, get off".*

ZD: Does he listen to you?

R chorus: *No.*

R1: *He always goes hard. (Female FGD)*

Additionally the young men described the importance of a female partner perceiving them to be masculine and be strong. In order to portray this strong image the young men feel that it is necessary to take control of sexual encounters, to initiate sex and be the active dominant partner.

R1: *Chicks want a leader, you know. If you can lead your chick, yeah, she's gonna believe in you...*

R2: *She wants you to make a move (initiate sex). You must make the move always. (Male FGD)*

Evident in the discussion with the young men was the centrality of their own sense of power, and the importance of maintaining this sense of power in order to uphold and

reinforce their masculinity, and not be perceived as 'weak' by others. They described the Xhosa belief that if a man performs oral sex on a woman, he will not be considered 'strong'.

*R1: They say in Xhosa (culture) like if you lick someone's vagina, ahah, you're gonna be weak... you're gonna be weak, filled with bad luck.*

*R2: Even when someone (a female sex partner) turns their back (on you) and show you their back, that give you bad luck... maybe you are doing it (having sex with her back facing towards you), that's bad luck. (Male FGD)*

The young men described the importance of portraying a powerful image, and being considered as strong and masculine by other people, especially those in one's peer group. The young men explained that having sex with a virgin was one way of gaining status and respect from other males.

*R1: If she (the girl you have sex with) was a virgin and stuff you see, you brag about that. Yeah if you got a virgin, then yeah (laughing), you got a bonus thing. You have a bonus... To break someone's virgin, yoh! I don't even know how to explain (laughs).*

*R2: It feels good. Yeah. If you met a chick that has never been touched by a man or a boy before, it means you are superior to the other guys. In manipulating girls in a way that they can trust you and do whatever you want with them. And the guys will praise you, like you're brilliant.*

*R3: Like if he was dating that girl, and he couldn't break her virgin (virginity), and also he (neither could another guy)... then you come, and just 2 days, say you were in a relationship for 2 days, and the next day, you hit her on the bed (have sex with her)... so... they will praise you...*

*R2: Damn, you're the boss!*

ZD: You mean if some other guy was in a relationship with her before you and he didn't manage to have sex with her?

*R3: Yeah he didn't manage to have sex with her... yeah when he asked she will always tell him, "no I'm not ready" and stuff, you see. Then me, in just a one night stand, you break her virgin... Yoh, that's a big thing to do. (Male FGD)*

The young men described various beliefs about women's sexuality having the power to weaken a man sexually, and therefore it is believed to be best to avoid certain sexual

behaviours that might imperil the power of a man, placing him at the mercy of female sexual witchcraft.

*R1: It's a belief man... This finger fucking thing on us blacks, when I say blacks I mean, let's say Xhosa and Zulus, we believe that some chicks have witchcraft, which they can hide. Frogs, blades.*

ZD: Frogs?

*R2: Yes frogs. They can hide a frog or a blade down there (in the vagina). And when you go in (penetrate the vagina with your penis)...*

*R1: A frog... When you put in your penis (into the vagina)... that frog will suck you and your thing (penis) will turn blue... and then swell. (Male FGD)*

### **Dry sex**

The topic of vaginal fluid emerged in the FGDs. Some of the young women suggested that sex is more enjoyable for the female partner if her vagina is 'wet' (lubricated), as otherwise penetration can be painful. However, the young women were of the view that a woman's vagina shouldn't be 'too wet', and expressed the perception of vaginal fluid being 'gross' (disgusting).

*R1: 'Manzi' (water in isiXhosa)... When she's wet, when her vagina is wet after having sex, you say 'manzi'...*

*R3: Thwaxathwaxa (onomatopoeic isiXhosa noise of a penis going in and out of a wet vagina)... (laughter)*

*R4: It means very wet... like a sponge. (laughter)*

ZD: Is it nice to be very wet?

*Rs: (chorus) No.*

*R1: It is nice (to be wet) because when it's (the vagina) dry, it's sore, you feel like a pain, and it (sex) hurts.*

*R4: Yoh! It's sore.*

*R2: It's nice and not nice at the same time, it's nice because it (penis) goes in (penetrates the vagina) easy, but it's kind of gross in a way. (Female FGD)*

Both the male and female participants described the perception of vaginal fluid being regarded negatively by male partners. Young women expressed the view that male enjoyment of sex is enhanced if the female partner is experiencing pain.

*R2: It (vagina) must first be dry.*

*R6: ...If you're too wet he will run away from you.*

*R2: ...He won't run away but he won't do it (have sex).*

*R1: ...if you're not wet it's kind of painful.*

*R6: He likes it when it's painful...*

*R2: I don't think guys like it when it's wet. (Female FGD)*

The views shared by young men echoed the sentiment that a girl's vagina should not be too wet, as it decreases friction and negatively affects the sensation of penetration, as well as making disgusting noises.

*R1: If she's too wet like... when you put it (penis) in... aah.*

*R2: You see when a girl is too wet you feel it like (makes suction noise), when you connect with her it will be like (makes noise), aah.*

*R1: Ugh (disgusted), that sound... it's disgusting. And the feeling.*

*R3: The sound... and your penis will be like in water, with a soap. When you touch a soap it's like (makes gesture with hands of a bar of soap slipping out of hand). With your bare hands, you can't catch a fish like that. No, balance must be there.*

*R4: You shouldn't just go in (penetrate) without feeling anything. (Male FGD)*

### **Female virginity**

The concept of 'virginity' was generally associated with the vagina, and more specifically with the hymen, though there was no consistent definition or consensus. The excerpt below depicts a debate between participants in one of the FGDs with young women, illustrating the lack of a clear and agreed upon definition of female virginity.

*ZD: Imagine a situation, there's a girl who has never had vaginal sex, but she has had anal sex, do you think she is she a virgin?*

*R3: Yes, she's still a virgin.*

*R4: Mmm (unsure), but she's sexually active.*

*R5: She is sexually active and she is a virgin.*

R2: ...She is a virgin if she's never had a vaginal sex.

R5: She's a virgin, and she's sexually active. Because she has had sex, it's just that she's doing anal sex.

R3: ...She is a virgin

R2: I do agree that she's a virgin.

R1: It's a bit confusing.

R2: If you've never had vaginal sex then you're a virgin. Because it (penis) doesn't go in the same part... Because the vagina is the vagina and the anus is the anus (laughing), so if you do it there...

R1: I don't think so. Because something has gone into your vagina. And same like fingering, you're saying you're still a virgin and then you're fingering? It's the same thing, you're not a virgin... Because something has gone into your vagina.

ZD: And if something goes into your anus?

R1: Then... I don't know. (Female FGD)

The excerpt below illustrates the belief that penetrative sex 'damages' a female, and by being damaged she loses her virginity, regardless of whether it is her vagina or anus that is penetrated.

*No, she's not a virgin (if she's had anal sex)... If he's having sex with you with his penis in the anus, it's the same thing, you're not a virgin ...you will get damaged even in the vagina, if you have sex with the anus, if he damages you, it means you're not a virgin. (Female FGD)*

The idea of virginity loss being marked by the 'breaking' of something was evident in the debate between the two young women in the excerpt below, about whether a young woman who has been penetrated anally but not vaginally would be a virgin. The conversation implies that the young women were unsure whether something would get 'broken' in the anus through penetrative sex.

R2: I think she's a virgin... because it (penis) has to go in the vagina to break that... I dunno what it's called... She is (a virgin), because he has to break the thing in your vagina. So if he's putting it (penis) in your anus, it's not in your vagina, so obviously you're a virgin...

*R3: No, she's not a virgin... Because he puts his penis in your anus, and he breaks something! He breaks something...*

*R2: There's no breaking of anything in the bum part! Only your poo comes out of your bum! Seriously.*

*R3: Blood comes out (of the anus) anyway (if you have anal sex).*

*R2: Ugh (disgusted)... You are a virgin, because you must put it (penis) in your vagina and not in your anus. (Female FGD)*

The theme of damage was also evident in the comments of one participant who suggested that if a young woman had never had vaginal sex her vagina would still be 'sealed', and thus she would still be a virgin. The concept of damage of the vagina or that the vagina is 'used' after having had sex was evident in another of the young women's comments:

*'Virgin' is when something has never been used. The vagina is still a virgin (if it has never been penetrated), because it has never been used. (Female FGD)*

The perception of 'virginity' being about purity and innocence was also evident in the comments from young men, implying that once a vagina has been penetrated it is no longer 'virginal' and intact.

*If the vagina is in the right condition (un-used) you see, she's a virgin... we regard her as a virgin. (Male FGD)*

One young woman suggested that virginity loss is associated with the capacity for conception through a sex act. She described her belief that it is possible to get pregnant through either vaginal sex or anal sex, and thus you would lose your virginity through either form of sex.

*It's the same, if he uses the anus or the vagina. It's the same. He can put a child in the front (make you pregnant by penetrating your vagina) and he can put a child in the back (make you pregnant by penetrating your anus), so either way, it's the same thing. (Female FGD)*

The quote below from one of the male FGD participants suggested that once a girl has had anal sex, she would somehow be damaged from the experience, not necessarily that her

vagina would be physically damaged, but that she would have lost her innocence and fragility. This young man suggested that once a girl has experienced anal sex, she would be able to withstand any other type of sex, even if it were forced and took place without foreplay or without her being prepared for it.

*Yoh... the ass! ...It's raw. That means the girl (who has had anal sex) can take the hit (be penetrated), even if you rape her, like if you take her trousers off and you put in your penis (without foreplay), she can have it, even like five minutes, because she once had (anal sex)... at the back! Hah! Yoh! (expression of shock or disbelief). (Male FGD)*

The young people described the notion of virginity being associated with purity and innocence; this virginal innocence would be lost through having had any kind of 'sex' or being 'sexually active'.

*She's not a virgin man... if she's been sexually active... she's not a virgin. Because like, virginity comes opened after having 'sex'. (Male FGD)*

However there was ambiguity around what constituted 'sex', and the configuration of oral sex in definitions of sex and virginity. The quote below demonstrates the ambiguous positioning of oral sex in conceptualisations of virginity.

ZD: If a girl sucks a penis, is she a virgin?

R2: Obviously no.

R1: She is, the virginity is there...

R2: Bra (slang for brother / friend), if a girl has sucked your dick, it means a lot about her... Bra, let's say the chick is a virgin, but she sucks your dick... If a chick sucks you and then tells you she's a virgin, you can't believe her. Why is she not afraid of sucking a dick? Haha... I wouldn't believe it...

R2: Sucking a dick is called 'mouth sex'... so she's not a virgin. (Male FGD)

The ambiguous positioning of oral sex within concepts of 'sex' and 'virginity' is also evident in the discussion with young men on male virginity below.

## Male virginity

There was even greater ambiguity and inconsistency with regards to the definition of male virginity. One commonality in participants' views was that virginity loss is defined and measured differently for males and females. The general view expressed by the young women was that a young man is a virgin if he has not had 'sex', and that male virginity loss would occur through either vaginal 'sex' or anal 'sex'. However as the excerpt below demonstrates, there was a lack of certainty and consensus regarding these definitions.

ZD: What about male virginity? If a guy has put his penis in an anus but never in a vagina, is he a virgin?

R1: *No. Coz he's had sex.*

R5: *...If he has sex through an anus or a vagina, he's not a virgin anymore.*

ZD: So a guy can have anal sex and he's not a virgin, but a girl can have anal sex and she is a virgin?

R2: *Yeah (laughter).*

R4: *Mmm, I don't know.*

R1: *I've changed my mind...*

R2: *He's not a virgin... she is a virgin.*

ZD: So for a guy it doesn't matter if it's an anus or a vagina, he's had sex. But for a girl it depends if it's her vagina or her anus?

R2: *Yeah. (Female FGD)*

One of the young men in the excerpt below believed that there is no such thing as male virginity, as virginity was inherently associated with the vagina, and thus only females possess 'virginity'.

ZD: What about a guy's virginity? If a guy has been given oral sex but he's never put his penis inside a girl, is he a virgin?

R1: *(Laughter) he's a virgin.*

R2: *Hayi (expression of disbelief), it's a virgin. Yoh...*

R3: *I don't know how to break a guy's virginity, because like maybe it's about the drop (testicles descending) or... putting your penis inside a vagina... like I don't know what's the definition.*

ZD: So if a guy put his penis inside an anus but not a vagina, is he a virgin?

R2: No.

R3: No, he's not... he's had sex... it's different for guys and girls. (Male FGD)

The quote below demonstrates the close association of the concept of virginity with having a vagina, and thus virginity being a state that only females can possess.

*Guys can't have a virginity. No they can't. From me, in my world, with my people, there's no man who's a virgin. There are not... Virginity is only for a woman, who have a vagina. (Male FGD)*

One of the male participants expressed a slightly different view, equating male virginity loss with any kind of penetration. He suggested that if a man penetrates a woman with any part of his body, even a finger, then that would constitute virginity loss.

*If you end up putting a finger (in the vagina), you end up losing it (virginity)... (laughs) You aren't a virgin anymore... no, you're not a virgin, because you actually put it (finger) inside. (Male FGD)*

Another view illustrated by the excerpt below was that the anus does not possess a 'virginity' that can be lost, that virginity is only associated with a vagina.

*She is a virgin... if she actually had anal sex and she didn't have vaginal sex... The anus is not virgin. The anus is not virgin from the start... the virgin haven't used the vagina, so she is a virgin. (Male FGD)*

The way in which participants spoke of anal sex implied a belief in the lack of anal sexuality, or the possibility of pleasure from anal sex, such as comments like "you can't turn on (sexually stimulate) the ass" (Male FGD).

## DISCUSSION

The findings presented in this chapter relate to some of the key topics of this thesis and are congruent with findings and themes that emerged from data presented in other chapters. I will refer to sexual scripting and gendered power in discussing these findings. These theories were introduced in the methods chapter, and are discussed in further detail in Chapter 8 and in the discussion in Chapter 10; I will not repeat what is contained in those sections, but shall link the theories to these findings.

Scripting of sexual behaviour was evident in the narratives of the young people who participated in the FGDs presented in this chapter, and in the participants' descriptions of how young men and women should appropriately conduct themselves in sexual situations. Sexual scripting and gendered power dynamics are interlinked with the factors that motivate young people to have sex. Young women described situations in which they have sex for reasons of relationship security rather than for their own pleasure. Similar findings emerged from research in Botswana conducted by McIlwaine and Datta (2004), who found that young women experience pressure from boyfriends to have sex with them if they are to 'prove their love' and 'keep' their boyfriends. Evidence from other research suggests, as do these findings, that some of the reasons adolescents in South Africa are motivated to have sex include creating intimacy and getting closer to their partner, as well as being in love with or proving love for one's partner (Patrick et al., 2010).

Gendered power dynamics were evident in the views expressed by the young men and women in the FGDs, with descriptions of male sexual pleasure being paramount in the heterosexual sexual dynamic, and the role of men as initiators and aggressors. Writing about masculine identities in South Africa, Kaufman et al. (2008) suggested that sex is viewed as a male domain where men should lead their submissive female partners. Masculinity in many societies is defined by the power men have over women. Literature on gendered sex roles in South Africa (O'Sullivan et al., 2006; Strebel et al., 2006), and Xhosa culture more specifically (Pettifor et al., 2004; Cain et al., 2011), suggest that male control over female sexuality and physical bodies is pervasive.

Also evident in the focus group discussions was the importance that young men place on being perceived by their peers as strong and masculine. South African adolescents engaging in sexual behaviours for image maintenance and attaining social status is also evident in the literature (Nebergall, 2014; Patrick et al., 2010). It is not within the scope of this thesis to delve in great depth into the theory and literature on social gender roles, masculinities and femininities. In Chapter 8 and the discussion section in Chapter 10, there is more in-depth examination of sexual scripting for heterosexual penile-anal intercourse, and how gendered power dynamics are at play within these scripts.

The other key theme emerging from these findings was that of the definition and conceptualisation of 'virginity'. The ways in which young people spoke about virginity, and the lack of consensus over how male virginity and female virginity are defined demonstrate that the boundaries determining the definition of the concept of virginity are not often discussed or debated, but are subject to underlying heteronormative penile-vaginal penetrative assumptions (see discussion in Chapter 4 for more discussion on this).

As illustrated by one female participant's comment about being able to get pregnant through anal sex, it is evident that penile-anal intercourse has been excluded from sex education and safer sex messaging campaigns targeted at (heterosexual) young people. I would argue that this partly due to the deeply entrenched penile-vaginal heteronormativity that has shaped the design and implementation of sexual health education and programming, linked with socio-cultural norms around sexual communication and anal sex taboos. One of the potential implications of omitting mention of anal sex from sex education and safe sex messaging is the consequential assumption that it is 'safe sex'. This theme is picked up on in other chapters.

Heterosexual penile-anal intercourse is largely unaddressed as a potential driver of heterosexual HIV transmission in the context of South Africa, and is often excluded from surveys and statistical reports. The majority of prevalence and behaviour reports on the African HIV epidemic utilise terms such as 'sex', 'virginity' and 'sexual debut' without defining what they mean or what sexual acts are included or excluded from the definition. The same assumptions are made in research (see Chapter 4 for in-depth discussion), such as a recent study on 'sexual / coital debut' amongst women in Durban, South Africa published

in 2014, which defined 'sexual debut' as 'first sexual intercourse', but did not define what 'sexual intercourse' includes or excludes (Wand & Ramjee, 2014).

As seen from these focus group discussions, definitions of 'sex' and 'virginity' are ambiguous and contested, and the concepts of 'virginity' and 'first sex' are complex. Many of the participants in this study expressed the view that the state of 'virginity' exists for female but not for males. Male 'virginity' is less visible and less discussed in the literature, in religious and cultural proscriptions, and in virginity discourse generally. There was debate amongst the participants as to whether having had PAI or oral sex would count as virginity loss. Female virginity is also generally valued more highly than male virginity (O'Sullivan et al., 2006). Further complexities in the definitions of virginity and sex are demonstrated by evidence suggesting that young women whose first sexual encounter is non-consensual, which evidence suggests is common in sub-Saharan Africa, may not view these 'first sex' experiences as 'coital debut' (Pettifor et al., 2004).

One of the reasons that it is critical to pay close attention to how terms such as 'virginity', 'sex' and 'sexual debut' are defined is that many HIV interventions in Africa, particularly those focused on young people, have advocated programme activities encouraging young people to delay sexual debut. The ways in which virginity and sex are defined have implications for HIV prevention messaging, particularly when programmes advocate the delay of 'sexual debut', promoting 'abstinence' and the maintenance of 'virginity' for young people, as a way of preventing HIV. Various studies have produced data suggesting that delaying 'sexual debut' is an effective mechanism to reduce HIV infection rates amongst young people in Africa, and there has thus been support for HIV prevention campaigns aimed at adolescents to delay sexual or coital 'debut' (Chersich & Rees, 2008). Where there is no standardised or agreed upon definition of 'virginity', or in cases where the specific way in which people define virginity is subject to assumptions, this may have unintentional negative outcomes on youth sexual risk behaviour, such as young people electing to have PAI as a mean of maintaining their 'virginity' (Cherie, 2012). (A comprehensive literature review relating to definitions and conceptualisations of 'virginity' is presented in Chapter 4).

## LIMITATIONS

The limitations of this research should be noted. The sample size from which this data was drawn was small and not representative, partly due to challenges in recruiting eligible participants, and successfully getting eligible participants to attend FGDs. There were more female participants than male participants in the sample, and only one FGD was conducted with young men. In addition, these findings are culturally specific, as many of the participants referenced their ethnicity and ethnic culture as a guiding force in their conceptualisations.

## CONCLUSIONS

Despite these limitations, many of the findings from this study are novel, and provide valuable data relevant to the overall research questions in this thesis, particularly in relation to definitions and conceptualisations of 'virginity', gendered power, and sexual scripting. As is the nature of data from FGDs, one is not necessarily able to explore in-depth personal experiences on sensitive topics, but these data are useful in describing attitudes and perceptions of young men and women in this community in Cape Town towards sexual behaviour, gendered sexual power dynamics and the concept of virginity. These findings support the findings presented in other chapters, and provide illustrative examples of some of the key themes discussed in the thesis as a whole.

# CHAPTER 6

## Conceptualizations of Heterosexual Anal Sex and HIV Risk in Five East African Communities

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### SYNOPSIS

This chapter presents data from qualitative research conducted in five communities in Kenya, Tanzania, and Uganda. We examined how heterosexual anal sex fits into local models and conceptualizations of sex, specifically looking at the reasons why people engage in anal sex. Drawing on existing literature in the interpretation of the findings, we described how heterosexual anal sex is conceptualised and understood in five East African communities, highlighting the misunderstandings around HIV risk and condomless anal sex and the implications these have on sexual behaviour and HIV programming in Africa.

## STUDY BACKGROUND

The data presented in Chapter 6 came from a project conducted by the ROADS project, and sponsored by USAID entitled: *“An assessment of community perceptions on sexual practice and targeted messages for specific groups”*. ROADS to a Healthy Future (ROADS II) was the follow-on to Regional Outreach addressing AIDS through Development Strategies (ROADS) project is a regional nine country project targeting at-risk populations along major transport corridors in East Africa. ROADS II supported community based HIV/AIDS programming in 31 transport corridor sites in Burundi, Djibouti, DRC, Ethiopia, Kenya, Rwanda, Sudan and Tanzania, and Uganda.

In each of the project sites, a group of organizations (cluster) came together to address health needs of a specific target population. These include the Youth cluster, the Low Income Women Cluster, the Orphaned and Vulnerable Children (OVC) cluster and the People Living with HIV/AIDS (PLHA) cluster. At the centre of all these clusters is Most-at-Risk Populations (MARPS) in each country including truck drivers, female sex workers and other vulnerable populations. The project’s focus was on sexual prevention through targeted messages to MARPS and the general population. Although there were slight variations in how each cluster carries out its programs all have two prevailing mechanisms of providing health communication messages to their respective audience groups namely peer education and magnet theatre groups. The messages are developed with the community participation based on the needs of the target population.

The ROADS II project management decided that in order to redesign strategic communication programs for these sites, there was a need for in-depth understanding of the views and perspectives of the different groups. A better understanding of the modes of sex among the project target groups was required in order to develop the messages for targeted populations in view of PEPFAR II guidelines. Thus as a prerequisite to developing strategic communication programs for these sites, ROADS II decided to conduct an assessment at the planned and existing sites to better understand HIV risks and therefore the needs of the populations reached. This assessment was designed to gather information necessary to develop communication activities and materials that were relevant to the specific audience groups in each of the ROADS II sites. Thus this study was implemented by

the ROADS II project as a formative assessment of community perceptions on HIV risks in order to gather data to inform future message development.

The main objective of the assessment was to identify communication needs and gaps for the various audience groups at ROADS sites. The specific objectives included 1) determining definition and understanding of sex and messages being delivered in the sites around these topics; 2) assess community perceptions on sexual behaviour and HIV risks; 3) understand the relevance of messages being delivered; and 4) gain a better understanding of knowledge, attitudes and behaviour of the various audience groups towards HIV/AIDS.

This assessment utilised qualitative research methodology approaches (as described in further detail below).

This chapter, through presenting data from research conducted in five communities in three East African countries, introduces many of the topic that are taken up and explored in more depth in the subsequent chapters. What this data offers which Chapters 7, 8 and 9 do not, is the male perspective on heterosexual PAI. Although this study was a broad overview of many of the issues, what it lacks in depth it makes up for in breadth, offering the perspectives of a wide range of people, male and female, and of varying age groups, in various professions. Additionally these findings demonstrate that many of the issues discussed in the thesis overall are widespread across sub-Saharan Africa.

## ABSTRACT

Heterosexual anal sex is under-researched and little understood, particularly in the African context. Existing prevalence data indicate that heterosexual anal sex is a widespread practice, however little is known about the way in which it is conceptualised and understood. Describing findings from qualitative research conducted in Kenya, Tanzania and Uganda, this paper sheds light on conceptualisations of heterosexual anal sex and its relation to HIV. These findings suggest that penile-anal sex is practiced by men and women in Africa for a range of reasons, including virginity maintenance, contraception, fulfilment of male pleasure, relationship security, menstruation, in the presence of vaginal complications, financial gain, fidelity and prestige. Despite anal sex being the most efficient way of

transmitting HIV sexually, there is widespread lack of knowledge about its risks. These findings describe the ways in which anal sex is conceptualised in 5 East African communities, highlighting how penile-anal intercourse is often not considered 'sex', and how the omission of anal sex in safe sex messaging is interpreted as meaning that anal sex is safe. In light of its frequency and risks, greater attention must be paid to heterosexual anal sex in Africa in order to ensure a comprehensive approach to HIV prevention.

## INTRODUCTION

Research on the sexual transmission of HIV consistently finds unprotected anal intercourse to be a highly predictive risk factor for sero-conversion (Baggaley, White & Boily, 2010). Receptive anal sex has been shown to be a predictor for HIV amongst women, with higher HIV prevalence among women who report anal sex than those who do not (Karim & Ramjee, 1998; Gross et al., 2000). Individuals who engage in heterosexual anal sex are also more likely to engage in other risk behaviours such as unprotected sex, alcohol and substance use, trading sex, and having multiple concurrent sexual partners (Baldwin & Baldwin, 2000; Gross et al., 2000; Ibanez, Kurtz, Surratt & Inciardi, 2010; Kalichman, Simbayi, Cain & Jooste, 2009). With the high risk of transmitting HIV through anal sex being established knowledge in the scientific community, recent years have seen a rise in research relating to anal sex. However few studies conducted in Africa have anal sex as the primary focus and the majority of existing data on anal sex pertains to men who have sex with men (MSM) rather than heterosexual men and women (Ibanez et al., 2010; Misegades, Page-Shafer, Halperin & McFarland, 2001).

Some of the reasons anal sex is practiced have to do with conceptualisations and definitions of 'sex', virginity, abstinence and fidelity. There is a complex interaction between the notion of virginity and the practice of anal sex, demonstrated by the ways in which virginity and abstinence are defined and enacted. For many young women virginity maintenance is a motivating factor for the practice of anal sex, particularly where a girl's worth as a bride is dependent on her virginity, verified by the discovery of an un-ruptured hymen during virginity testing inspections (Scorgie, 2002).

People also engage in anal sex for a range of practical reasons: anal sex is used as an alternative form of penetrative sex during menses (Makhubele & Parker, 2008; Ndinda et al., 2008; Tucker et al., 2012), avoiding embarrassment and the messiness of blood, particularly in communities where menstrual blood is seen as a polluting substance that men must not come into contact with (Gausset, 2002). Anal sex is also used as a form of contraception, or to avoid the discomfort of vaginal sex during the late stages of pregnancy or in the presence of vaginal STIs (Exner et al., 2008). Female circumcision is also a motivating factor for anal sex, either for the pleasure of a woman who has had a clitoridectomy, or in the case of vaginal complications related to infibulation (Brady, 1999; Lightfoot-Klein, 1989).

The risks of anal sex are underestimated by the majority of sexually active heterosexuals (Baldwin & Baldwin, 2000) and reported rates of condom use are universally lower for heterosexual anal intercourse than vaginal intercourse (Exner et al., 2008; Melby, 2007; Misegades et al., 2001). Amounting evidence suggests that despite the focus on penile-vaginal sex, heterosexual penile-anal intercourse may in fact be responsible for a significant burden of HIV among heterosexual men and women (Misegades et al., 2001). Although there is increasing literature on anal sex in Africa, there is still much that needs to be explored. Gaining a deeper understanding of the ways in which anal sex is defined and enacted in African contexts, why people engage in it, as well as how it is understood in relation to HIV transmission, could have a great impact on HIV prevention.

The African heterosexual HIV epidemic has been framed as primarily driven by penile-vaginal sex, downplaying alternative explanations and other sexual transmission vectors (Fonck et al., 2001; Undie, Crichton & Zulu, 2007). Although there has been increasing recognition of and attention paid to HIV transmission through anal sex between MSM in Africa, anal sex between men and women is still under-recognised and in some cases its existence is even denied (Brody & Potterat, 2003). Anal sex has been excluded from public health service provision to the general population; the majority of national guidelines for STI screening, treatment and management in Africa do not include syndromic guidelines or routine examination for anal STIs (Moys & Khumalo, 2004; WHO, 2003). Despite unprotected anal sex being the most efficient way of transmitting HIV sexually, HIV prevention messages targeted at the general heterosexual population fail to recognise the importance of anal sex as an HIV transmission vector and continue to emphasise penile-vaginal sexual transmission; anal sex tends only to be referred to in materials specifically targeting MSM, these materials themselves being scarce across Africa (Baggaley et al., 2010; Sawyer, Howard, Brewster-

Jordan, Gavin, & Sherman, 2007). Globally there has been a lack of awareness and sensitivity in the public health sphere towards any sexual behaviour that lies outside the normative conception of 'sex' as penile-vaginal penetrative intercourse (Baggaley et al., 2010; Dixon-Mueller, 2009); this has particularly been the case in Africa (Lorway, 2006).

**Table 5: Heterosexual anal sex prevalence data from Africa**

<b>Population</b>	<b>Location</b>	<b>Percentage engaging in Anal Intercourse (AI)</b>	<b>Reporting period</b>	<b>Reference</b>
University students	South Africa	8% male & female students	Past 12 months	HEAIDS, 2009
Men and Women	South Africa	14% (n = 360/2593) males 10% (n = 172/1818) females	Past 3 months	Kalichman et al., 2009
Youth aged 15-24	South Africa	5.5% of males & 5.3% of females	Ever	Lane et al., 2006
General population	Rural KZN, South Africa	20% (men & women)	Ever	Karim, 2003
Female sex workers (FSW)	South Africa	43% had with clients (n = 62/145)	While selling sex	Karim & Ramjee, 1998
Adolescents aged 10-19	Tanzania	7.5% (male & female) (n = 66/885): 8.5% of males; 5.4% of females	Ever	Kazaura & Masatu, 2009
FSW	Kenya	37% (n = 74/200)	Ever	Priddy et al., 2011
FSW	Meru, Kenya	40.8% (n = 60/147)	Ever	Schwandt et al., 2006
HIV-positive FSW	Nairobi, Kenya	16% (n = 161)	-	Fonck et al., 2001
Sexually active school adolescents	Nigeria	15.2% (n = 197)	Ever	Morhason-Bello et al., 2008
Women	Mombasa, Kenya	18% (n = 64)	Past 3 months	Grijzen et al., 2008
University students	Northern Nigeria	12.1% (male & female) (n = 17/300)	Ever	Kabir et al., 2004
Primary school children	Tanzania	9% as first sexual act (male & female)	As first sexual act	Matasha et al., 1998

The studies cited in Table 5 indicate that heterosexual anal sex is a widely practiced behaviour in Africa. The majority of the studies in the table refer to the proportion of the population that report 'ever having' anal sex; existing research has paid little attention to the frequency of anal sex practice, the context in which anal sex takes place, how it is conceptualised, and the implications that these have on sexual decision-making and HIV risk mitigation (Štulhofer, 2011). By presenting data from qualitative research conducted in 5

communities in Kenya, Tanzania and Uganda, this paper examines how heterosexual anal sex fits into local models and conceptualisations of sex, specifically looking at the reasons why people engage in anal sex. By drawing on existing literature in the interpretation of the findings, this paper describes how heterosexual anal sex is conceptualised and understood in five East African communities, highlighting the misunderstandings around HIV risk and unprotected anal sex and the implications these have on sexual behaviour and HIV programming in Africa.

## METHOD

This paper presents findings from qualitative research conducted as part of a regional East African HIV programme's evaluation activities. The aim of the research was to examine community perceptions of various risk behaviours, including anal sex, with the intention of redesigning strategic HIV communication tools and programmes. The international research ethics review board for the organisation under which the programme functioned approved the study protocol. The programme's HIV education and outreach activities function through 'project clusters': target populations consisting respectively of male long-distance truck drivers, female sex workers (FSW), fishermen, youth, health workers, community opinion leaders and other adult community members. Sampling of respondents was purposive, based on their demographic profile and involvement in the project clusters.

Data collection took place in May 2010 across 5 sites: Mlolongo and Salgaa in Kenya, Malaba and Mbuya in Uganda, and the port of Dar es Salaam in Tanzania. A total of 369 respondents took part in this study: 164 females and 205 males. 315 respondents took part in 40 Focus Group Discussions (FGD), with between 5 and 12 respondents in each. FGDs were single-sex and grouped according to respondents' age and categorisation into one of the following categories (congruent with project clusters): male or female youth, male or female adult community members, FSW, male truck drivers, male fishermen, and male or female health workers. A total of 54 individual in-depth interviews (IDI) were conducted; IDI respondents included health workers, youth and adult community members, and religious and community leaders. Informed consent was obtained from all respondents for their participation and for the audio recording of interviews.

**Table 6: Data collection sample for East Africa study**

Population group	Kenya				Uganda				Tanzania	
	Mlolongo		Salгаа		Malaba		Mbuya		Dar es Salaam	
Community members	M 7	F 8	M 11	F 11	M 9	F 2	M 10	F 10	M 13	F 12
Health workers	M 7	F 11	M 8	F 9	M 9	F 9	M 8	F 16	M 9	F 1
Youth	M 9	F 8	M 10	F 8	M 11	F 10	M 1	F 8	M 13	F 9
Community opinion leaders	M 2	F 0	M 2	F 0	M 1	F 0	M 2	F 0	M 1	F 1
Sex Workers	M 0	F 7	M 0	F 9	M 0	F 0	M 0	F 7	M 0	F 8
Truck drivers	M 11	F 0	M 6	F 0	M 16	F 0	M 6	F 0	M 11	F 0
Fishermen	M 0	F 0	M 0	F 0	M 0	F 0	M 0	F 0	M 12	F 0
IDs: Total 54 (31 M / 23 F)	M 6	F 6	M 7	F 4	M 6	F 5	M 5	F 5	M 7	F 3
FGD: Total 315 (174 M / 141 F)	30	28	30	33	40	16	22	36	52	28
<b>Total: 369 (205 M / 164 F)</b>	<b>36</b>	<b>34</b>	<b>37</b>	<b>37</b>	<b>46</b>	<b>21</b>	<b>27</b>	<b>41</b>	<b>59</b>	<b>31</b>

Each FGD and IDI was conducted by a facilitator and a note taker fluent in English and Swahili. Interviews were conducted in a combination of Swahili and English for the reason that the study sites were along transport corridor (trucking) routes with highly transient populations, amongst whom English and Swahili are the commonly spoken languages. IDIs and FGDs followed semi-structured interview guides covering topics related to knowledge, attitude, perceptions and practice around anal sex, sex, virginity, abstinence and safe sex, as well as alcohol use and other risk behaviours. Different interviewers conducted the research in the 3 different countries, but all used the same topic guide.

Audio recordings of the FGDs and IDIs were transcribed verbatim, with any identifying information omitted from transcripts. Original transcripts were in a mixture of English and Swahili, so all transcripts were translated into English. Data analysis of the transcriptions was done using a word processing programme; initial coding was done by the lead researcher and collaboratively confirmed by the larger research team. Analysis of the data followed a process of iterative thematic analysis in which emergent themes are identified, contrasted and compared within the data. Themes represent patterns of responses or meaning within the qualitative data set, where quantity of the occurrences of a theme is not as important as the nature of the theme itself (Braun & Clarke, 2006). Content analysis of the data followed

five phases of thematic analysis: the first phase is total immersion in the transcript data, with data read in its entirety; the second phase involves coding the data; in the third phase codes are arranged into key themes and sub themes; in the fourth phase the themes are streamlined, deleting or merging themes where appropriate; in the final phase themes are verified and refined. After identifying patterns and themes in the data, emerging conclusions were verified through discussion with the broader research team. On-going collaboration with Swahili speakers throughout the analysis process ensured that meanings and interpretations emerging from the data were consistent across the languages.

## RESULTS

The results section of this paper presents data from FGDs and IDIs; data is organised into the three main themes that emerged from the analysis process. The first of these themes relates to the taboos and silences that surround anal sex. The second theme encompasses motivations for anal sex and is broken down into a number of sub-themes including anal sex practice for the purpose of maintaining virginity, as a means of contraception, during menstruation, or in the case of vaginal complications; motivations for anal sex in the context of sex work includes the higher financial benefit of anal sex; women may be motivated to engage in anal sex to ensure security in a relationship, or because their bodies are viewed as male property; male pleasure is an important motivating factor for anal sex, with the relative tightness and dryness of the anus as compared to the vagina cited as incentives for anal sex. The third theme addresses understandings of anal sex in terms of HIV transmission.

### *Theme 1: Anal sex taboo*

The first theme emerging from the data relates to the silences and taboos surrounding anal sex behaviour. According to study respondents any discussion of anal sex leads to embarrassment and discomfort so people generally avoid the topic: “people shy away from that (anal sex)... they don’t talk about that... it’s like a taboo” (Male youth, FGD, Kenya). People are reluctant to openly disclose their own anal sex practice to health care providers, alluding to it only in indirect ways, as one Kenyan health worker described: “anal sex is very silent, though we know it is happening, very few people come out clearly to let you know...

some of these ladies (FSW)... they could tell you ok, they 'had both routes' with their clients... (but they don't) come in the open to say 'I had anal sex'" (Male health worker, IDI, Kenya). According to some respondents health workers may berate a client for having anal sex: "You find many fear anal sex, because... when a lady gets pregnant and goes to deliver, the doctor can tell if she was having anal sex, and thus scolds her" (Female health worker, FGD, Kenya). If spoken about, anal sex is referred to using metaphorical or vague language such as "through the back door" (Male health worker, FGD, Kenya), "in the back" (Female youth, FGD, Uganda), or as one young man from Kenya put it: "you can also fuck a chick on the back" (Male youth, FGD, Kenya). Although many respondents spoke about people in their own communities practicing anal sex, some expressed the view that it is only outsiders who practice anal sex:

*R1: It is the Tanzanians, Kenyans, Somalis and Arabs... They love using the anus...*

*R2: It is the whites... they initiated that act...*

*R3: It is usually those Indians. They like it so much... (FSW, FGD, Uganda)*

## ***Theme 2: Motivations for anal sex***

**Virginity.** Respondents were asked about the ways in which they understood and defined 'virginity'. The majority of study respondents closely associated virginity with the vagina, both semantically and symbolically. Respondents from across the sites articulated the view that if a girl has been penetrated anally but has never been penetrated vaginally she remains a 'virgin': "a girl will still be a virgin if she has only had anal sex, because virginity is only located in the vagina and not in the anus" (Male truck driver, FGD, Tanzania). Likewise male virginity is also associated with the vagina: "if a boy has never penetrated into a vagina then definitely he is a virgin" (Male youth, FGD, Kenya). The English terms 'vagina' and 'virgin' were understood by some respondents to be the same word, with their pronunciation of the two words being very similar. In the understanding that the two words are very similar, or that the word 'virgin' originates from the word 'vagina', 'virginity' is understood by some people to refer directly to the vagina, with a number of respondents using the term 'virginal sex'. "The word virgin comes from the word vagina. For somebody whereby they have not penetrated through the vagina, the vagina is still intact, they have only penetrated through the anus... the girl is a virgin" (Male health worker, FGD, Uganda).

The association between virginity and the vagina is not only semantic, but also biological, with the hymen (a thin mucous membrane layer in the vagina) regarded as the marker of female virginity. A girl who has only had anal sex and whose hymen is intact is considered a virgin: “when the vaginal membrane is not broken the girl remains a virgin... when a man goes with this girl on the anus... the girl qualifies to remain a virgin” (Male health worker, FGD, Uganda). Female virginity was highly valued by respondents across the study sites: “it is a sign of glory for a man who marries a virgin girl, it adds respect to him” (Male community member, FGD, Tanzania). Some respondents alluded to the assumption that a ‘virgin’ whose hymen is intact will be HIV negative, as she will be seen to have never had ‘sex’; one Kenyan respondent shared a story about his neighbour who “got married a real virgin... then she started showing symptoms of HIV. When she was questioned... she started crying saying she was... advised to only have anal sex so that she would still maintain her virginity and respect during marriage” (Male truck driver, FGD, Kenya). Premarital anal sex is used to maintain virginity while attaining sexual satisfaction: “Ladies have anal sex to preserve her vagina for the man who is going to marry her, to preserve virginity and at the same time satisfy herself sexually” (Male youth, FGD, Kenya). This suggests that anal sex is seen as a socially sanctioned form of pre-marital intimate behaviour to sate the sexual appetite. However, the definition of virginity was not standard, even within a FGD varying definitions would be given:

*Interviewer: If a young girl has never had vaginal sex but she has had anal sex, is she still a virgin?*

*Respondent 1: That girl is not a virgin because she has had sex.*

*R2: I would also say she is not a virgin because she has already inserted a penis into her body and she has already received sperms...*

*R3: She is not a virgin because by being a virgin you will have not had any form of sexual intercourse, whether you use a vagina or anus you cease to be a virgin...*

*R4: I would say that this girl is a virgin because if you took her for a vaginal test, it will show that she is still intact and a virgin.*

*R5: That girl is not a virgin because she has relaxed her muscles (and been) penetrated by the penis...*

*R6: That girl is still a virgin... she can be called a virgin until they break her hymen and she bleeds. (Female health workers, FGD, Uganda)*

**Anal sex as contraception.** Besides virginity, respondents said that anal sex is also practiced as a method of contraception, particularly by women from communities that prohibit the

use of contraceptives, such as the example of Islamic women given by a Kenyan respondent: “Muslims are not allowed to use contraceptives, so it forces the woman to have sex with her anus so as not to get babies year in year out” (Male truck driver, FGD, Kenya). It was suggested that for young women wishing to avoid pregnancy but still wanting to be sexually active, anal sex provides an alternative form of sex during a woman’s fertile phase without fear of conception: “when a woman has unsafe days, there are those who do not want to be patient” (Female health worker, FGD, Kenya). Anal sex as contraception was described by one respondent as particularly useful for school-girls who want to have sex but also remain in school: “schoolgirls discover that behind (in the anus) they cannot get pregnant... they will continue schooling and there will be no quarrel with the parents since they are not pregnant” (Male health worker, FGD, Kenya).

A number of female respondents stated that female sex workers, particularly those without economic support from their partners, engage in anal sex to ensure an income while at the same time safe-guarding against unwanted pregnancy. One FSW respondent described anal sex as a means of avoiding the risk of single-parenthood: “I normally use anal sex to avoid pregnancy because I’m not sure who will take the burden for a coming child, that’s why I prefer to play anal sex to avoid this problem. So I tell him vagina I don’t want because of pregnancy, I need anus” (FSW, FGD, Tanzania).

**Anal sex for money.** Sex worker respondents reported that clients pay more for anal sex than for vaginal sex, with unprotected anal sex garnering even higher payment, meaning that economically or socially vulnerable sex workers or those dependent on substances are more likely to offer unprotected anal intercourse to clients, being more driven by financial incentives than their less vulnerable and more financially secure co-workers. One female respondent described the decision-making process involved: “when you compare the amount of money he was going to offer you without using anus with (the money) he offers you if he uses anus, you will realise that it is little. So you are compelled to offer him sexual intercourse through anus” (Female youth, FGD, Uganda). The reason clients pay more for anal sex may be because the anus is regarded as more ‘exclusive’ than the vagina. Some clients of sex workers prefer the anus because they perceive it to receive less client traffic and therefore consider it cleaner: “some feel disgusted by the front since many people use it, they think the anus is not used by others” (FSW, FGD, Uganda). One male respondent claimed that he demands anal sex if he finds a sex worker to be unclean: “when she removes the clothes and opens the legs, she has a terrible smell. Such a girl I tell her to turn behind

and I fuck her in the anus because I can't lose my money, but she's dirty" (Male truck driver, FGD, Uganda). Some respondents expressed the sentiment that anal sex is only practiced by 'loose' women, so men go to sex workers for anal sex as it is not deemed appropriate to have anal sex with their wives. This view is summed up succinctly in the phrase: "front is for wife and anal is for prostitute" (Female youth, FGD, Kenya). Both FSW and male respondents expressed the view that the paying client of a sex worker is entitled to demand whatever type of sex he wants. This quote from a Ugandan male illustrates the power dynamics in this kind of financial transaction: "when someone has given you money... whatever (he) wants to do with you he is fulfilling the use of his money, whether he puts (his penis) in your anus instead of the vagina or puts it in your nose or in your mouth, it is none of your business as long as he has fulfilled his desire" (Male community member, IDI, Uganda). Demonstrating the power of money, some FSW respondents articulated an attitude of indifference to the type of sex their clients request, financial gain being the key motivator: "we sex workers are only after money, that is all we want. So whether you do it from the back or in front, as long as you pay me" (FSW, FGD, Uganda).

**When vaginal sex is not appropriate or possible.** A number of respondents cited reasons relating to vaginal complications as motivations for anal sex. One example was women electing to have anal sex on occasions when infections make vaginal sex too painful, but it is still necessary to provide sex to her male partner: "the vagina might have a boil and is painful and the man still wants the act (sex) so you have to do the other, anal" (Female youth, IDI, Kenya). Respondents also suggested that anal sex is considered a viable form of penetrative sex during the late stages of pregnancy, when vaginal sex becomes uncomfortable for the female partner. One young Kenyan woman echoed the sentiment above that respectable married women should only practice vaginal sex, except when pregnancy makes this physically difficult: "when you're married you stick to vaginal unless you are pregnant... you can't do normal (sex) because the stomach is huge" (Female youth, IDI, Kenya). Respondents suggested that anal sex is used by women to anchor their male partner when she is unable to have vaginal sex. For example a woman who has recently given birth vaginally and finds it vaginal sex painful may offer her husband anal sex to satisfy his sexual needs so that he does not seek sex outside the marriage: "If a woman has just given birth and the husband wants to have sex with her... in the fear of the man to go and get other women outside... she will let him use anal" (Male youth, IDI, Uganda). Some respondents said that anal sex may be necessary for women who have undergone female circumcision: "they cut out the clitoris using a sharp knife hence the vagina loses all feelings,

her feelings are only aroused when you get the penis and put it in the anus... she never feels anything until you fuck her in the anus" (Male truck driver, FGD, Uganda). Anal sex also provides an alternative to vaginal sex when a woman is menstruating. According to some respondents, the male partner may demand anal sex during his female partner's menstruation: "when you have periods, the man wants to use you, and he says if the front (vagina) has periods, behind (anus) there are no periods" (Female health worker, FGD, Kenya). Women might also offer anal sex to her male partner during menstruation to ensure he doesn't seek sex outside the relationship, which may put her at risk of STIs: "If your husband cannot sleep without having sex and you are having your periods, you will reason that instead of leaving your husband to find another woman to have sex with, and you know there are infections, you would rather give him anal sex so that he stays with you in the house" (Female health worker, FGD, Kenya).

**Anal sex for male pleasure.** As seen above, anal sex is used by women for practical reasons, to ensure a male partner's sexual satisfaction and fidelity while unable to have vaginal sex, illustrating the primacy of male sexual needs. This notion of women's sexual compliance was articulated by female respondents across the sites; women are unable to refuse their male partners anal sex if they request it as it is a woman's duty to provide for her male sex partner's pleasure: "If your partner insists that he wants the anus then you have no choice because he has to get pleasure" (Female health worker, IDI, Kenya). Female respondents expressed the sentiment that a man's ownership of his female partner's body entitles him to have sex with her in whatever manner he wishes: "he says all places are his so wherever he wants he uses" (Female youth, IDI, Uganda). This is seen as especially the case in situations where bride price has been paid: "the fact that they paid dowry they feel they have a right to have sex with (their wives) however and whenever they feel like" (Female health worker, FGD, Uganda). According to both male and female respondents, if a woman fails to provide the type of sex that her male partner desires, she faces the risk of rejection. Thus women comply to their male partner's request for anal sex as a means of ensuring security in the relationship: "girls do that because they want to avoid the boyfriend from leaving, so she allows anal sex to prevent him chucking her" (Male youth, IDI, Uganda).

Male respondents across the study sites claimed that anal sex is more pleasurable for men than vaginal sex due to the tighter sensation around the penis enabling them to ejaculate faster: "the anus makes it sweeter because it holds the penis tight making it faster to release (ejaculate)" (Male youth, FGD, Kenya). Faster ejaculation through anal sex was also viewed

as beneficial by sex workers, enabling them to see more clients in a night: “(I) like to practice anal sex because it takes short time for men to ejaculate thus I can go to look for another client” (FSW, FGD, Tanzania). Some male respondents said that vaginal sex ceases to be enjoyable when the vagina stretches, which in their view happens if a woman has been highly sexually active. In these cases of perceived vaginal stretching, anal sex is preferable as the anus remains tight: “the woman’s part, a vagina, which is normally used by men... it is loose and enlarged... the only part that cannot get loose easily, that has firm grip... that is the backdoor (anus)” (Male health worker, FGD, Kenya). In addition to the vagina’s perceived looseness, some male respondents expressed a dislike of the naturally produced lubricating fluid in the vagina, asserting that being naturally drier, anal sex is more pleasurable: “vaginal becomes tasteless when fluid increases and when the place loosens, even if you use different styles one can not be satisfied, in that case people prefer to have anal sex” (Male fisherman, FGD, Tanzania). In contrast to evidence from the United States showing men’s preference for vaginal wetness (Tanner et al., 2009), evidence suggests that many African men prefer un-lubricated ‘dry sex’ with increased friction, demonstrated by the existence of vaginal drying practices that are prevalent in many parts of Africa, including Kenya (Fonck et al., 2001; Schwandt, Morris, Ferguson, Ngugi & Moses, 2006), Zambia (Mbikusita-Lewanika, Stephen & Thomas, 2009) and Zimbabwe (Braunstein & Van de Wijgert, 2005).

The looseness of a woman’s vagina was also regarded by male respondents as evidence of a woman’s infidelity. This means that a woman engaging in extra-marital sex may choose to have anal sex so that her vagina remains ‘tight’ and her husband will be unable to detect her infidelity: “some married women think that if they cheat with the normal way, using vaginal sex, their men will know that they are fornicating, so they use anal sex... the vagina will expand if they were cheating, so they prefer in extra marital sex to do anal sex” (Female youth, FGD, Kenya). For similar reasons men may choose to have anal sex with extra-marital partners so that they don’t feel guilty: “they decide to use the anus which will make them feel like they are not cheating since they haven’t used the vagina... to them that will mean that they are not cheating on their wives. Some people think that cheating on some one is by having vaginal sex so they use the anus so as not to feel guilty (Female health worker, FGD, Uganda).

**Anal sex for adventure and novelty.** Some respondents described anal sex as a normal part of their sexual repertoire. One young Kenyan woman described the progression from oral

sex as foreplay, leading to vaginal sex, culminating in anal sex: “anal sex combines with vaginal because you start with oral then you continue with vaginal then you complete with anal... People begin with oral to bring up the body to that mood... maybe the vagina is not feeling, then move to anal” (Female youth, IDI, Kenya). Several women articulated that women are able to enjoy anal sex once they get used to it, after which they may start to prefer anal sex to vaginal sex: “once a woman does anal, she gets used to it and she loves it. There are women who feel itchy in the anus therefore her release comes when penis penetrates it” (Female health worker, FGD, Kenya). One respondent suggested that a woman may choose anal sex if her male partner has a small penis: “(if) the man’s penis is small and does not satisfy her, they use the anus so she can be satisfied” (Female health worker, FGD, Uganda). The sentiment was expressed by some respondents that having anal sex earns a man respect and is a sign of his sexual fortitude and prowess, whereas vaginal sex, being more common, does not garner the same respect: “they don’t appreciate vaginal sex much because everyone has vaginal sex but when he goes in for anal that’s when he shows his strength” (Female youth, IDI, Uganda).

The monotony of ‘normal sex’ was cited by respondents in this study as a reason to engage in anal sex. Additionally the use of drugs and alcohol and the influence of Western pornography were cited as motivating factors for anal sex practice. Pornography has also been blamed for encouraging or inducing anal sex practice by respondents from other studies in Kenya (Njue, Voeten & Remes, 2011) and South Africa (Ndinda et al., 2008); it is argued that pornography and substance use may have an effect on increasing prevalence of anal sex behaviour through normalising and eroticising ‘non-normative’ sexual acts, decreasing inhibition and encouraging experimentation (Njue et al., 2011; Štulhofer, 2011; Tucker et al., 2012).

### *Theme 3: Conceptualisations of HIV risk and anal sex*

In addition to examining motivating factors for anal sex behaviour, respondents were also asked questions relating to their knowledge of HIV and STI transmission through anal sex. Across all study sites emerged the misperception that the anus harbours no sexually transmitted infections whereas the vagina does. Due to the belief that “it is the vagina that has HIV” (Female health worker, IDI, Uganda), many respondents considered vaginal sex to be far riskier than anal sex, and as a result “they prefer anal sex thinking they will prevent

contracting diseases” (Male community member, IDI, Kenya). The belief also exists that since the anus is perceived to be ‘more exclusive’ and is used by fewer people than the vagina, as discussed earlier, it is considered to be a safer option: “some do it (anal sex) with an assumption that HIV can be gotten from the other side (vagina) because that is where so many go” (Male community member, IDI, Kenya). Relating to the vagina being considered riskier than the anus, respondents voiced the belief that HIV is harboured only in vaginal fluid, and therefore the anus, being ‘dry’, is safe from infectious bodily fluids: “the virus is in the vaginal fluid so they find it safer to divert to the rectum” (Female health worker, IDI, Uganda). Due to the misperception that HIV cannot be transmitted through anal sex, some respondents said that condoms are not considered necessary for anal sex: “when they do it anally they don’t use a CD (condom) but in vaginal they must use CD because in vaginal they can get infected” (Female youth, IDI, Kenya). In addition to the evidently poor knowledge regarding condom use for anal sex, respondents also demonstrated poor knowledge regarding appropriate lubricants for anal sex. Petroleum jelly (Vaseline) was mentioned by a number of respondents as a lubricant commonly used for anal sex, and reportedly believed to have protective properties: “if you know that you are going to have sex with a man, you smear Vaseline down in your private parts... and then you cannot get infected” (Female community member, IDI, Uganda).

Respondents reported that HIV programmes and prevention activities in their communities do not mention or address anal sex, saying they were only aware of safe sex messaging relating to the risks of ‘normal sex’: “the only programs that are around deal with one common type of sex, they have never dealt with anal sex... they only talk about vaginal sex” (Female youth, IDI, Kenya). This was regarded as an explanation for the belief that anal sex is safe: “what people preach out there its just vaginal sex, not information on anal... its just about normal sex... so somebody somewhere thinks if I do it this other way then I will not get HIV” (Female youth, IDI, Kenya).

## DISCUSSION

The first theme emerging from the data addresses taboos relating to anal sexual practice. Anal sex is regarded as “not proper”, something that should not be discussed, resulting in an unwillingness to disclose anal sex to health workers; similar perceptions have been found in

Zimbabwe (Mavhu, Langhaug, Manyonga, Power & Cowan, 2008) and South Africa (Ndinda et al., 2008). Framed by social and cultural norms that have shaped conceptualisations of sex and public health programming, and compounded by taboo, anal sex is often not conceptualised as being 'sex' at all. In some African languages, the avoidance of explicit terms and use of metaphors mean that anal sex is often confused with vaginal penetration 'from behind' (Priddy et al., 2011).

The taboos around anal sex are linked to the knowledge gaps around the risks of HIV transmission through anal sex, as covered by the third key theme emerging from the data analysis. Due to poor knowledge regarding the relative risks of anal sex versus vaginal sex, and the belief that vaginal fluid is the only bodily fluid that harbours HIV, some people practice anal sex as a form of 'safe sex'. Lorway (2006) encountered similar beliefs in Namibia where male respondents believed that anal sex with another man was safe as the anus is dry and free from infectious bodily fluids.

Knowledge relating to the safe and correct use of condom and lubricants for anal sex is poor in many African contexts, amongst both MSM and heterosexually active men and women (Lorway, 2006), and studies have shown that various lubricating products are used for anal sex, including body lotions and baby oil, cooking oil, petroleum jelly and motor oil, all of which contain mineral oils or other substances that degrade latex condoms (Exner et al., 2008; Lorway, 2006; Priddy et al., 2011). Incorrect lubricant use may be one of the factors contributing to the fact that the chances of condom breakage during anal sex are higher than for vaginal sex (Silverman & Gross, 1997). The findings from this study are congruent with a number of studies from across the world in indicating that the risks of anal sex are underestimated by the majority of sexually active heterosexuals, and reported rates of condom use are universally lower for heterosexual anal intercourse than vaginal (Baldwin & Baldwin, 2000; Lorway, 2006; Maynard et al., 2009; Misegades et al., 2001; Priddy et al., 2011). These misconceptions around the risks of anal sex highlight the dearth of information on the sexual transmission of HIV through any other vector than penile-vaginal penetrative sex, and the need for information materials addressing HIV transmission through 'other sex'.

The widespread taboos surrounding anal sex mean that health interventions addressing anal sex will be complicated to deliver and possibly face resistance from both community members and health service providers. One way to address these challenges may be to emphasise the HIV risks of anal sex; highlighting the biological risk factors and the

knowledge gaps around protective anal sex behaviours may be one way to circumvent the taboos. These kinds of tactics are not uncommon in HIV prevention, where the threat of HIV has surmounted barriers caused by social norms against talking about sex more generally.

Beyond taboos and education gaps there are a range of other factors that are important to take into account. The second theme emerging from the data highlighted a wider range of reasons that men and women engage in anal sex. Implications for HIV prevention also lie in the language and terminology around sex; the complexity and contextuality of notions of virginity are demonstrated by this and other studies (Peterson & Muehlenhard, 2007; Scorgie, 2002; Trotter & Alderson, 2007). In the same way that 'sex' is construed as only being penile-vaginal sex, 'virginity' often refers only to 'vaginal virginity', which means that a girl who has had penile-anal penetrative sex but never penile-vaginal penetrative sex is considered a 'virgin' and therefore assumed to be HIV negative. Definitions of sex, virginity and abstinence have implications for sexual decision-making; with the idea that neither oral nor anal sex constitute sex or a loss of virginity, young people under societal pressure to maintain their 'virginity' are more likely to engage in non-vaginal sexual behaviours, either oral-genital and ano-genital (Dixon-Mueller, 2009; Peterson & Muehlenhard, 2007). In an era of HIV prevention programmes advocating delayed sexual initiation and abstinence, the social pressure to remain a virgin contributes to young people's risk of infection by acting as a barrier to their adoption of preventive behaviours and encouraging alternative non-vaginal sexual practices (Baldwin & Baldwin, 2000; Cherie & Berhane, 2012; Exner et al., 2008; Sawyer et al., 2007; Trotter & Alderson, 2007).

In addition to being practiced in order to prevent HIV infection or to maintain virginity, anal sex is also used as a form of contraception, particularly by young women of school-going age, or by sex workers (Exner et al., 2008; Maynard, Carballo-Diéguez, Ventuneac, Exner & Mayer, 2009; Tucker, Krishna, Prabhakar, Panyam, & Anand, 2012). The public health implications of this are substantial, in that the fear of unwanted pregnancy trumps the fear of HIV infection, meaning that unprotected anal sex is considered a 'safer' and more sensible option than unprotected vaginal sex.

Aside from practical reasons for engaging in anal sex, such as HIV prevention, contraception, menstruation, virginity maintenance and vaginal complications, anal sex is also practiced for more complex and symbolic reasons related to the conceptualisations of sex. Sexual

relationship and power dynamics play a role in decision-making around anal sex, and sex more generally. Many women express concern that they face rejection if they fail to provide their partners with the type of sex they desire. Provision for and accommodation of a male partner's sexual needs enhances security within a relationship, especially in cultures where women's subordination to men is reflected in the attitude that women's sexual pleasure is less important than that of men (McFadden, 2003; Njue et al., 2011). The subordination of female sexuality is a cultural norm in many parts of Africa, and male pleasure is accorded prime importance during sex (Lightfoot-Klein, 1989; Undie et al., 2007). McFadden (2003) explains how this "systematic suppression of women's sexual and erotic inclinations is maintained through vigilant cultural surveillance". As a result of cultural norms and popular media, women perceive it to be their moral obligation and responsibility to fulfil and satisfy a male sexual partner's desires in what has been termed "sexual compliance" (Katz & Tirone, 2009). Many women find anal sex uncomfortable or painful, especially when insufficient lubrication is used, when scared or tense, when it is forced or there has been "inadequate anal preparation (anal foreplay)" (Štulhofer, 2011:354); despite this discomfort, due to female sexual compliance, many women feel obliged to provide anal sex to their male partner, believing it to be more pleasurable for him (Maynard et al., 2009). Congruent with McFadden's theory, the findings of this study also suggest that women's bodies are often treated as male 'property', and a man is entitled to do what he pleases with his female partner's body; this may be especially the case in cultures where men pay bride-price for their wives. In juxtaposition to these theories however is the idea that female 'anal sexuality' is under-recognised, and women's pleasure from anal sex is also a motivating factor for the behaviour. As expressed by respondents in this and other studies, some women do enjoy anal sex, with some even finding anal sex preferable to vaginal sex (Duby, 2009; Melby, 2007).

## LIMITATIONS, IMPLICATIONS AND FUTURE RESEARCH

The limitations of this study are founded in its initial scope as a programmatic evaluation activity designed to inform a localised HIV intervention in East Africa. Recruitment for the study was done through the programme, thus the sample may have over represented

individuals more likely to engage in HIV prevention activities, and there may have been an element of social desirability bias if respondents were eager to please project staff. The communities in which the study was conducted, although relatively geographically disparate, all shared the common characteristic of being located along major trucking routes, so may not be representative of other settings. Due to the tabooed nature of anal sex, it is likely that respondents may have felt uncomfortable discussing the topic, especially in the focus group environment. Some respondents may have been reluctant to disclose their own anal sex behaviour, due to concern about the anonymity and confidentiality of the research process (Mavhu et al., 2008). However because the study set out to explore conceptualisations of anal sex, disclosure of personal anal sex practice by respondents was not necessary.

The use of thematic analysis may be perceived to be a limitation due to the variations in interpretation of data enabled by its flexibility, and that the findings from this type of analysis tend to be descriptive rather than interpretive. Using qualitative methods such as these are appropriate to get descriptive data on conceptualisations of anal sex; in order to get a sense of the distribution of beliefs and practices around anal sex and the ways in which beliefs affect practices more specifically would require more in-depth qualitative and quantitative research.

Understanding the reasons why people engage in anal sex is critical for health policy makers and practitioners to ensure a comprehensive approach to sexual health. In many ways, these findings point to the fact that anal sex is very much like other sexual practices, in that it is shaped by gender norms (such as seeing women as property and men's pleasure as paramount), cultural beliefs (especially regarding definitions of virginity and expressed preferences for dry sex), and pragmatic concerns (contraception, menstruation or vaginal complications). Important too are concerns about economic and relationship security that shape sexual choices, both within the context of sex work and personal relationships. These factors, however, do not represent a simple explanation that can be used to address or understand anal sex practices; it is not possible to simply reduce these complex factors down to a few key elements or predict their effects. Because of the powerful taboos that operate with respect to anal sex, it may be that the factors identified in this study are not factors that people themselves even speak about with each other, or are even conscious of themselves. Any intervention aiming to reduce HIV transmission requires a multi-pronged approach that equips people with the information necessary to enable them to make

informed decisions within this complex context, and equips health care providers with the knowledge and skills necessary to provide comprehensive sexual health services. While certainly not perfect, healthcare providers in many countries have come a long way since the early days of the HIV epidemic in providing more objective, accurate and less judgemental information about sexual health. To do so in Africa requires a better understanding of conceptualisations and behaviours surrounding anal sex.

The gaps in knowledge around anal sex and HIV risk illustrated in this study highlight the need for the inclusion of anal sex into all levels of HIV prevention, such as the incorporation of anal sex and anal STIs into IEC (information, education and communication) materials, condom promotion activities, health worker training, research tools and stationary for collecting patient sexual history, as well as STI screening, diagnosis and treatment guidelines. Efforts should be made to increase the availability and marketing of male and female condoms and appropriate lubricants for anal sex in Africa. Biomedical HIV prevention research also needs to take heed of anal sex practice; during clinical trials of intravaginal HIV prevention products, any practice of anal sex by trial participants may mask vaginal product efficacy (Priddy et al., 2011). Even now microbicide research in Africa focuses on developing vaginal microbicides for women, and rectal microbicide research in Africa is thus far limited to MSM. In order to develop effective and acceptable microbicides, both vaginal and rectal, it is critical to understand factors likely to influence product formulation and use, such as vaginal and anal cleansing practices, condom and lubricating practices, as well as the situations anal sex occurs in (Exner et al., 2008).

In conclusion, despite the taboos and silences that surround this sexual behaviour, anal sex continues to be practiced by men and women in Africa. Reasons for its practice are various and complex, some may be a result of the lack of information about anal sex and HIV. It is important to gain an understanding of the practices that surround anal sex in order to design appropriate and contextually relevant HIV interventions.

# PREFACE TO CHAPTERS 7, 8 and 9

## The VOICE-D Study

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### BACKGROUND

The data presented in Chapters 7, 8 and 9 were collected as part of VOICE-D. VOICE-D (MTN-003D), entitled “*An Exploratory Study of Potential Sources of Efficacy Dilution in the VOICE Trial*”, was a sub-study of the VOICE study conducted at previous VOICE sites in Durban, Harare, and Kampala.

The Vaginal and Oral Interventions to Control the Epidemic (VOICE) Study (MTN-003), was designed to assess the safety and efficacy of daily dose oral and vaginal formulations of tenofovir and oral Truvada, in preventing human immunodeficiency virus (HIV) acquisition. The VOICE study, a Phase 2B, five-arm, multi-site, randomized, placebo-controlled trial, was open-label with respect to the randomly assigned mode of administration (vaginal or oral), and subsequently double-blinded within each mode. VOICE was funded by the National Institute of Allergy and Infectious Diseases (NIAID), with co-funding from the *Eunice Kennedy Shriver* Institute for Child Health and Human Development and the National Institute of Mental Health, all components of the U.S. National Institutes of Health.

The VOICE study was conducted at 15 NIAID-funded clinical research sites in Uganda, South Africa and Zimbabwe. Of the total 5,029 women enrolled into VOICE’s five randomised study arms, 4,077 were from South Africa, 322 from Uganda and 630 were from Zimbabwe. The mean age was 25.3 (nearly half were younger than 25); and 79 % of the participants were single. In South Africa, the mean age was 24.7, although more than half (55 %) were under age 25 and only 8 % were married. The mean age in Uganda and Zimbabwe, was 28.3 and

28.1, respectively; 50 % of the women enrolled in Uganda were married, while in Zimbabwe, 94 % were married.

Two separate reviews of data by an independent Data Safety and Monitoring Board (DSMB), in September and November 2011, respectively, resulted in the oral and vaginal tenofovir arms being dropped from the study. Although no safety concerns were identified, neither the daily dosing regimen of oral tenofovir nor the 1% tenofovir gel used in the VOICE study was shown to be associated with reduced rates of HIV acquisition. Therefore the VOICE DSMB recommended that these arms of the study be stopped for futility. The preliminary results of VOICE were presented at the Conference on Retroviruses and Opportunistic Infections (CROI) in Atlanta in March 2013. Of the 5,029 women enrolled in VOICE, 312 acquired HIV during the study (another 22 women who were later identified as being infected at enrolment were excluded from the analysis), for an overall HIV incidence of 5.7 %, nearly twice what investigators had expected when they designed the trial. HIV incidence, which represents the number of women who become newly infected for every 100 participants in a given year, ranged from 0.8 % in Zimbabwe, to 2.1 % in Uganda, to 7 % in South Africa. The incidence was nearly 10 % at some South African trial sites.

In light of VOICE's divergent results, VOICE-D was designed to explore the potential factors that may have contributed to efficacy dilution in the VOICE trial.

### **Dilution of Efficacy**

Many factors may contribute to dilution of efficacy results within the context of an HIV prevention clinical trial, including several participant-related behaviours, such as product adherence and sexual practices. Generally, trials attempt to discourage those behaviours that may have a detrimental effect on outcomes through participant-focused counselling. However, despite a trial's best efforts to support adherence and/or discourage sexual behaviours that may contribute to dilution of efficacy, the socio-cultural context, including the trial context, organization of the participant's social environment (i.e., importance and role of partners, family members, and the larger social network), and individual beliefs and attitudes about HIV risk and/or the trial may influence these behaviours. Furthermore, a trial's efforts to discourage behaviours that contribute to efficacy dilution – through on-going counselling and messaging – may promote social desirability bias in participant responses about these behaviours. This may in turn limit the accuracy of behavioural

measures that might otherwise contribute to an understanding of effectiveness results. In light of this, VOICE-D was designed as a qualitative ancillary study, to explore potential sources of efficacy dilution in the VOICE clinical trial among exited VOICE participants.

The primary objective of VOICE-D was to explore larger contextual issues and specific aspects of the VOICE trial that positively and negatively affected participants' actual and reported product use. In order to reach this objective, VOICE-D sought to explore the reasons, motivations and context of engaging in receptive anal intercourse (and rectal use of gel among VOICE participants in the gel group). VOICE-D explored not only the socio-cultural context that may contribute to anal sex practices and reporting of these practices among VOICE participants, but also examined perceptions of rectal gel efficacy and use within the trial context in order to better understand how anal sex may contribute to dilution of efficacy.

# CHAPTER 7

## Lost in translation: Language, Terminology and Understanding of Penile-Anal Intercourse in an HIV prevention Trial in South Africa, Uganda and Zimbabwe

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### SYNOPSIS

**Chapter 7** presents the findings from VOICE-D interviews as they relate to the language and understanding of the terms used for anal sex during VOICE. This chapter examines in depth issues pertaining to language and terminology relating to PAI, and sex more generally, and the implications that these have in the research environment, specifically in clinical trials. By presenting data from the VOICE-D study, specifically relating to how VOICE participants understood and interpreted the questions relating to PAI, these findings demonstrate the complexities and ambiguities in language, and the challenges in sexual behaviour reporting due to translation challenges, as well as social desirability bias. This paper also touches on the taboo aspect of PAI, as it relates to the lack of acceptable terms describing the behaviour, and how the taboo nature of PAI impacts on how participants report the behaviour in the research setting.

## ABSTRACT

Despite efforts to use culturally appropriate, understandable terms for sexual behaviour in HIV prevention trials, the way in which participants interpret questions is under-investigated and not well understood. We present findings from qualitative interviews with eighty-eight women in South Africa, Uganda and Zimbabwe who had previously participated in an HIV prevention trial. Findings suggest that participants may have misinterpreted questions pertaining to penile-anal intercourse (PAI) to refer to *vaginal sex from behind*, and subsequently misreported the behaviour. Three key issues emerge from these findings: firstly the under-reporting of socially stigmatised sexual behaviours due to social desirability bias; secondly the inaccurate reporting of sexual behaviours due to miscomprehension of research terms; and thirdly the ambiguity in vernacular terms for sexual behaviour, and lack of acceptable terms for PAI in some languages. These findings highlight methodological challenges around developing clear and unambiguous definitions for sexual behaviours, with implications not only for clinical trials, but also for clinical practice and sexual risk assessment. In this paper we discuss the challenges in collecting accurate and reliable data on heterosexual PAI in Africa, and make recommendations for improved data collection on sensitive behaviours.

# INTRODUCTION

Each social and cultural context has behavioural norms and linguistic guidelines around sex and sexual communication (Cain et al., 2011). Sexual behaviour is considered an intimate and private aspect of people's lives, and communicating about sex is often complex, uncomfortable and embarrassing. Language referring to sex, either in the form of colloquial or more formal wording, tends to be indirect, ambiguous and euphemistic. Even clinical terminology can be misinterpreted, misunderstood, and lack precision (Duby & Colvin, in press). In much of sub-Saharan Africa, sex is considered a taboo topic, only to be discussed openly in socially sanctioned situations, such as during initiation rites (Kawai et al., 2008; Wight et al., 2006). Researchers studying sexual behaviour face a number of challenges, amplified in cross-cultural research: firstly in creating an enabling environment in which participants feel comfortable enough to openly and honestly report their sexual behaviour; secondly in using methods that encourage the participant to report accurately and truthfully; and thirdly in using terms that are precise, unambiguous, easy to understand, and are likely to be interpreted as researchers intend (Frith, 2000).

The phrasing of research questions, and the manner in which research participants understand and interpret terms, are critical for the collection of valid and reliable data on sexual behaviour. Moreover, precise assessment of risk informs the design of effective and relevant HIV interventions (Schroder et al., 2003). Accurate translation is particularly important, and difficult, in multi-site studies, exacerbated by the lack of a standardised process requiring researchers to re-translate terms for each study (Cleland et al., 2004; Ramirez et al., 2013). Decades of cross-cultural research have used the widely accepted Brislin (1970) model of forward and back translation. However even when such well-established methods are used to translate study tools and resolve 'semantic incongruences', the possibility remains of selecting terms that may be unfamiliar to the study population, ambiguous and open to misinterpretation, leading to invalid results and misplaced interventions (Baker et al., 2010). During cross-cultural research, it is essential to establish participants' comprehension and familiarity with research terms, to ensure that translated terms are accurate and not 'lost in translation'.

Achieving participant comprehension has proven to be a major challenge in HIV prevention clinical trials (Mack et al., 2013). Given that terminology for sexual behaviours is infinitely

varied and fluid, even with carefully translated and piloted study tools, one cannot assume that all study participants will interpret terms for sex acts similarly. This can be particularly problematic in contexts that are 'linguistically heterogeneous', such as many parts of Africa (Cleland et al., 2004). An additional challenge in HIV prevention trials is the identification of sexual behaviour terms in local languages that are unambiguous and clearly understandable, without being offensive or insulting (Ndlovu, 2009; Ramirez et al., 2013).

The accuracy of sexual behaviour self-reporting is influenced by the degree to which the behaviour is culturally sensitive or socially undesirable, as well as concerns over loss of privacy, lack of confidentiality, and characteristics of the interviewer or interview environment (Hewett et al., 2008; Mitchell et al., 2007; Plummer et al., 2004; Rasinski et al., 1999). 'Socially desirable and norm-driven responding' (Hewett et al., 2008) refers to the over-reporting of behaviours that are perceived to be acceptable and desirable (e.g. condom use or adherence to a study product), or under-reporting of socially stigmatised, undesirable behaviours such as selling sex, using substances or having anal intercourse (Catania, 1999; Gorbach et al., 2013; Minnis et al., 2009).

The mode of data collection also affects the accuracy of reporting. Because ACASI (Audio Computer-Assisted Self-Interviewing) is standardised, affording participants privacy and thus reducing social desirability bias, it was thought to yield more accurate data on sensitive behaviours, with the inference that higher reporting of sensitive behaviours is necessarily more accurate (Gorbach et al., 2013; Langhaug et al., 2010; Mensch et al., 2010; Minnis et al., 2009; Rasinski et al., 1999; Schroder et al., 2003). However, drawbacks of ACASI include the lack of opportunity to detect participant confusion, clarify terms, or probe to verify participant comprehension (Jaya et al., 2008; Turner et al., 2009). Where no internal consistency checks are built into the software, ACASI is likely to produce more internally discrepant data than is face-to-face interviewing (FTFI) because interviewers can, and do, reconcile inconsistencies (Hewett et al., 2008; Mensch et al., 2010). In the absence of biomarkers to validate self-reports, it is not possible to ascertain whether participants are over- or under-reporting in either ACASI or FTFI.

In 1998 Karim and Ramjee warned that HIV prevention studies should consider the effect that penile-anal intercourse (PAI) may have in microbicide trials. PAI has the potential to 'dilute efficacy' for three reasons: firstly if participants apply a vaginal microbicide gel rectally yet the gel is not protective for PAI; secondly if participants apply the gel vaginally

with the perception that it will offer protection for PAI; and thirdly, the belief that PAI is 'safe sex' for which protective gel is unnecessary (Mâsse et al., 2009). Gorbach et al. (2013) recommended the use of ACASI in vaginal microbicide trials to ensure more accurate reporting of PAI. This paper presents findings on language and terminology for PAI, and participants' understanding and interpretation of a question relating to PAI asked using ACASI in a recent HIV prevention trial (VOICE) (Marrazzo et al., 2015). Findings highlight challenges that cross-cultural and multi-lingual studies face with translation, and shed light on issues pertaining to sexual behaviour reporting, specifically for socially stigmatised behaviours such as PAI.

## METHODS

### *Background to the VOICE trial*

VOICE-D was a qualitative follow-up to its parent study "VOICE" (MTN-003), a multisite phase IIB HIV prevention trial testing tenofovir-based biomedical HIV prevention products, a daily tenofovir 1% vaginal gel and two daily oral tablets (Viread® and Truvada®). VOICE was conducted from 2009 to 2012, and enrolled 5,029 female participants from South Africa (N=4,077), Uganda (N=322) and Zimbabwe (N=630) (Marrazzo et al., 2015). During VOICE, participants self-reported their adherence to study products, as well as their sexual behaviour, using pictorial ACASI. The ACASI questions in VOICE were translated and back translated using the Brislin method. Prior to the start of VOICE, ACASI instruments, including the anal sex question, were pre-tested in all the site languages, among volunteers similar to the target population and/or local staff not directly involved with the trial. However neither cognitive interviewing with participants nor discussions with site staff fully revealed the ambiguity of the terms during this pre-testing stage.

One ACASI question, asked quarterly throughout the duration of VOICE, assessed engagement in PAI in the past three months, as follows: "In the past 3 months how many times have you had anal sex? By anal sex we mean when a man puts his penis inside your anus". Due to unexpectedly high reporting of PAI, concerns were raised, approximately a year into VOICE, regarding participants' comprehension of the ACASI question. It became

apparent that in the process of back-translating the terms, translators had not highlighted the ambiguity and scope for varying interpretation in translated terms for PAI (see Table 7).

**Table 7: Translations of ACASI PAI question**

	Zulu	Shona	Luganda
<b>English ACASI question</b>	In the past 3 months how many times have you had anal sex? By anal sex we mean when a man puts his penis inside your anus.		
<b>Translated question</b>	Ezinyangeni ezintathu ezidlule, ngabe uye kangaki ocansini lwesitho sangasese sangemuva? Ngocansi lwesitho sangasese sangemuva sisho uma indoda ifaka isitho sayo sangasese sangaphambili phakathi esithweni sakho sangasese sangemuva.	Mumwedzi mitatu yapfuura, makambosangana pabonde nekumashure here? Kana tichiti makambosangana pabonde nekumashure, tinoreva kana murume achiisa nhengo yake nekumashure kwenyu kwamunoita nako tsvina.	Mu myezi esaatu (3) egiyise, emirundi emeeka gy'ofunye okwegata kwemabega gyofulumira? Okwegata kwemabega gy'ofulumira tutegeeza ng'omusajja atadde obusajja bwe munda gyofulumira.
<b>Literal English back-translation</b>	In the past 3 months, how many times did you have sex in your back private part? By sex in your back private part, we mean when a man puts his front private part in your back private part.	In the past 3 months, how many times did you have sex at the back? By sex at the back we mean when a man puts his penis in your stool passage.	In the past 3 months how many times did you engage in sex with the back part where you pass faeces from? By sex with the back part where you pass faeces from we mean when a male puts his penis inside the passage where you pass faeces from.
<b>Revised question (implemented April 2011)</b>	Ezinyangeni ezintathu ezedlule, ngabe uye kangaki ocansini lwezinqe? Ngocansi lwezinqe ngisho uma indoda ifaka isitho sayo sangasese (ipipi) embobeni yezinqe zakho.	N/A	N/A
<b>Literal English back-translation of revised question</b>	In the last 3 months, how many times have you had sex in the buttocks? By sex in the bum/buttocks I mean when a man inserts his private part (penis) into your bum/buttocks.	N/A	N/A

Following this recognition were extensive consultations and a process of group translation, resulting in the re-phrasing of the PAI questions in Zulu, to be more specific, without being offensive. During re-translation of the Zulu PAI question site staff rejected the terms “ngquza” and “indunu” (anus / ass), considering them vulgar and inappropriate, choosing instead the term “ezinqeni” (in the bum). The re-phrased ACASI PAI question was implemented in April 2011, approximately eighteen months after VOICE study initiation, and

only two months before enrolment ended. After implementation of the re-translated terms in Zulu, baseline prevalence for PAI reporting in the past three months amongst newly enrolled Zulu speaking participants decreased from 21% to 16%. Overall, baseline figures were 17% (N=868) of all 5,029 participants reported PAI in the past 3 months (20% in South Africa, and 7% in both Uganda and Zimbabwe).

### ***VOICE-D***

VOICE-D was conducted in 2012-2013, after completion of the VOICE trial. Acknowledging the limitations of ACASI, and the possibility that participants had not consistently understood the PAI question in VOICE, one of the aims of VOICE-D was to revisit how VOICE participants had understood and interpreted the terms used for PAI in the ACASI questions (for more details on VOICE-D: [www.mtnstopshiv.org/news/studies/mtn003d](http://www.mtnstopshiv.org/news/studies/mtn003d)). Qualitative in-depth interviews (IDIs) were used to retrospectively unpack participants' understanding and interpretations of the language and terminology for PAI used in VOICE.

### **VOICE-D Sample**

Based on pre-selected stratification criteria to ensure that at least 10% had reported engaging in PAI while participating in VOICE, and approximately 10% had acquired HIV during VOICE, exited VOICE participants who had given permission to be re-contacted, were invited by fieldworkers to enrol in VOICE-D. Eighty-eight female participants from four locations (twenty each from two sites in Durban, South Africa; twenty-six from Chitungwiza, Zimbabwe and twenty-two from Kampala, Uganda) were enrolled into VOICE-D. Those participants who had previously reported PAI in ACASI were not alerted that this was a stratification criterion, interviewers were blind as to whether participants had reported PAI during VOICE, and the interviews were not targeted towards their specific reporting of the behaviour.

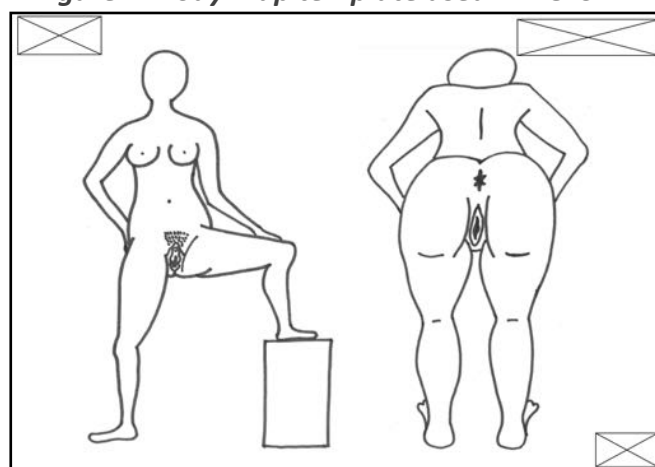
### ***Data collection***

Interviewers received study specific training prior to data collection activities; one training session was devoted to sensitising interviewers towards the topic of PAI, and equipping them with the knowledge, skills and techniques necessary to neutrally and comfortably discuss such a taboo topic in the interview environment. Interview guides were developed by the research team in English, translated into each of the local languages at study sites

(Shona, Luganda and Zulu), and field-tested by site teams. Ethical approval for VOICE-D was obtained from Institutional Review Boards and Ethics Committees at each of the implementing study sites in Zimbabwe, Uganda and South Africa and collaborating institutions in the United States and in Cape Town.

Interviews were conducted in participants' language of preference (Zulu, Luganda, Shona or English), followed a semi-structured format and covered two topic areas, adherence to study products and PAI. The section of the interview covering PAI was initiated using a body mapping activity, designed as an ice-breaker to the topic of sex, and as a visual aid to facilitate discussion and provide clarity on participants' anatomical knowledge and understanding of terms for various sex acts. The body map template consisted of a hand-drawn outline showing the front and back of a nude female figure (Figure 2). The template was intentionally simple, designed on the premise that participants, particularly those with low-literacy, would not relate to a sagittal view diagram of the female anatomy. At the same time the template was intentionally graphic enough that it could be used to assess participants' anatomical knowledge and verify participants' understanding of the PAI question administered during VOICE ACASI. Following the body mapping activity, questions on anal sex were introduced with a statement that almost 900 participants in VOICE had reported PAI during ACASI. After determining their comprehension of the definition of PAI, participants were asked open-ended questions relating to the behaviour. Further, we examined participants' narratives of their own PAI experiences compared to their VOICE ACASI reports.

**Figure 2: Body map template used in VOICE-D**



Audio recordings from the IDIs underwent a process of transcription, review, translation into English, and secondary review before finalisation. A codebook was iteratively developed by the coding team reflecting the study’s key objectives and themes that emerged through reading the data. Qualitative data were coded and analysed using NVivo 10 (QSR International) by a team of four analysts; ≥80% inter-coder reliability was established and verified on ~10% of the transcripts throughout the coding process.

## RESULTS

Basic demographic characteristics of the VOICE-D sample are presented in Table 8. The table also gives details of participants’ reporting of PAI in VOICE’s ACASI, and VOICE-D interviews. Sixty five percent (57/88) were in agreement and reported similarly about PAI in both ACASI and IDIs, with twelve (14%) reporting PAI in both settings. Twenty six percent (23/88) said they had never engaged in PAI during their IDI, although they reported so during their ACASI. Finally, a tenth of participants reported PAI in the IDI but not in ACASI.

**Table 8: Demographic characteristics of and PAI reporting by VOICE-D sample**

Demographic Characteristics	All countries N=88	South Africa N=40	Uganda N=22	Zimbabwe N=26
Mean age	28.6	26	29.5	28.6
<b>Language spoken at home</b>				
isiZulu	35 (40%)	35 (88%)	-	-
isiXhosa	4 (5%)	4 (10%)	-	-
English	1 (1%)	1 (3%)	-	-
Luganda	19 (22%)	-	19 (86%)	-
Shona	26 (30%)	-	-	26 (100%)
Other	3 (3%)	-	3 (14%)	-
<b>Reporting of PAI</b>				
YES in VOICE ACASI but NO in IDI	23	13	3	7
NO in VOICE ACASI but YES in IDI	8	5	3	0
YES in both VOICE ACASI & IDI	12	6	3	3
NO in both VOICE ACASI & IDI	45	16	13	16

The findings presented below describe topics relating to language, terminology and understanding that emerged from analysis of the VOICE-D qualitative data. Direct quotations (translated) from participants are presented in italics, followed by brackets detailing the participant’s nationality and age. In cases of quoted conversation, “R” denotes the respondent, and “I” denotes the interviewer.

### *Anal sex taboo*

The social sensitivity of PAI was evident in the reactions that participants had to the introduction of the section of the interviews addressing the behaviour, with a majority of participants from all three countries displaying reactions such as shock, disgust, denial, disbelief, embarrassment, and surprise. Some participants asserted that discussing sex so openly was inappropriate, especially taboo behaviours like PAI.

*Those are secrets for the bed. (Ugandan, age 39)*

Participants from all three countries asserted that the topic of anal sex should not be openly discussed; discomfort was evident in women's verbal cues and body language. The language participants used to refer to PAI had largely negative associations. Zimbabwean participants used descriptive terms such as: *"zvinosemesa"* (disgusting), *"hazviitwi"* (not meant to be done that way), *"hazvitaurewe"* (not talked about), and *"zvinonyadzisa"* (shameful or embarrassing). Ugandan participants used similarly negative language to talk about PAI, such as: *"kya nsonyi"* (embarrassing) and *"ela ebyo biba bifu"* (it is wrong). Amongst South African participants, younger women were generally more comfortable talking about PAI, and four participants under 25 years of age admitted to enjoying PAI. Some of the older South African participants, however, displayed anger at being asked about such intimate aspects of their lives, even reprimanding the (younger) interviewer with the assertion that it is against 'our culture' (the Zulu culture shared by the participant and interviewer) to discuss sex so openly.

The language participants used to describe PAI strongly associated the behaviour with homosexuality. Almost all the Ugandans referred to anal sex as *"okulya ebisiyaga"* (homosexuality), saying you must be *"bisiyaga"* (homosexual) to have PAI. The Zimbabwean participants had similar associations, using terms like *"hungochani nzira yachona iyoyo"* (having sex the homosexual way) for PAI. The South African women used terms like *"ngabantu besilisa kuphela"* (men only) and *"izitabane"* (gay).

### *Comprehension*

Use of the body map template assisted in enabling interviewers to ascertain participants' comprehension of the PAI question and terminology. 10/88 participants (South African N=2;

Ugandan N=1; Zimbabwean N=7) expressed confusion over which anatomical location (vagina or anus) the PAI question was referring to, and needed it to be clarified by the interviewer.

*I: Looking at this picture, when we say the man puts his penis through the anal hole of your body... where do you think he will put his penis?*

*R: Through the front. Not through the place you excrete stool. (Zimbabwean, age 30)*

During VOICE-D interviews, several participants admitted to only realising, after comprehension had been clarified using the body map template, what the PAI question in ACASI had referred to, stating that they had misinterpreted the question to refer to penile-vaginal intercourse (PVI) and reported accordingly.

*All along I thought the 'back part' being referred to was the position when a woman's back is bent over... then the man will put his private part (penis) here... at the back, but not the anus... I failed to understand this question when we were asked on ACASI... but it has become clear after this discussion... when we were using ACASI I didn't understand the meaning of that question... I was one of those who didn't understand what exactly the question meant... I thought maybe it's a sexual position in which the woman is bent over... then the men penetrate the women using the proper place (vagina)... That's how I understood it... I knew of my way of doing this (sex)... which is not what this question asked about... I answered this question under the impression that it was asking about vaginal sex in that bent position. (Zimbabwean, age 40)*

14/88 of VOICE-D participants (South African N=2; Ugandan N=3; Zimbabwean N=9) stated that they had not understood the PAI question in VOICE's ACASI, or had misinterpreted it to refer to PVI.

*R: They asked us (about sex using ACASI) but they never specified whether it was anal sex... we thought that then we would be bending over and the man passes behind you like this.... But they never really asked us about anal sex.*

*I: ...what you understood is a man 'passing behind' but not using the anus?*

*R: Yes that is how I understood it... I answered yes because I had not understood its true purpose...*

*I: So what you understood is the man passing behind to the vagina and not the anus?*

*R: Yes madam. (Ugandan, age 39)*

A lack of comprehension was evident across participants from the three study countries, with greater lack of understanding demonstrated by Shona speakers. In some instances interviewers needed to use the body map template to clarify that the translated terms for anal sex in ACASI were referring to the anus and not the vagina.

*I: When we say anal sex... what did it mean (to you), having sex from where?*

*R: ...Vagina, is that not what it was asking?...they were asking how many times from behind... meaning the vagina. (Zimbabwean, age 24)*

During the IDIs, many participants used ambiguous terms that translate as 'from behind', 'at the back' and 'pass behind', demonstrating the lack of clear, explicit, acceptable terminology for PAI.

*R: I understood that he will be having sex from behind (vaginal doggy style), but not from the anus.*

*I: Is there a name given to this act (anal sex)... that you know?*

*R: Well, no, I just know that it is having sex from behind (vaginal doggy style), but here in this paper (body map template), it specifies where the feces come from... 'from behind' differs with where the feces come from. (Zimbabwean, age 30)*

Interviewers had to probe participants using the body map, to clarify precisely which part of the anatomy such terms referred to.

*It (the ACASI question) meant I was to answer if during sex... we used the front or the back... 'The back' I don't mean he will be inserting his penis into my anus... I mean he will be inserting into my vagina from behind... That is what I understood this question was asking... when they say 'from behind'... it doesn't mean he's inserting into my anus but he's inserting into my vagina but I would be... bending. (Zimbabwean, age 27)*

When informed that approximately 900 VOICE participants had reported PAI, some of the VOICE-D participants were of the opinion that this high number must have been a reporting

error, due to a large proportion of women misunderstanding the question, interpreting it to refer to PVI, rather than indicating that many women had actually had PAI.

*I think there was a mistake... most people thought you meant doggy style (vaginal sex from behind). (Zimbabwean, age 27)*

### **Local terminology for 'anal sex'**

Participants generally used euphemistic language to refer to genitalia, such as "private parts". To refer to the genital or anal areas, Zimbabwean participants used indirect terms like "maparts acho akavanzika aya" (the hidden parts), "kuzasi" (down there), "pakati ipapo" (genital area) and "kumusuri" (where farting happens). In reference to the vagina, Ugandan participants used terms in Luganda such as "kakyala kabakazi" (lower thing), or English terms such as "ordinary one" and "woman's part"; instead of referring to the anus participants used words such as "mukabina" (buttocks). South African participants used terms like "ushukela" (sugar) and "ekhekheni" (cake) to refer to the vagina, as well as indirect terms for having sex such as "do that thing".

*A man can come from behind... he puts his thing in. (South African, age 39)*

All of the terms that participants used to refer to the anus were ambiguous, such as "behind one" and "at the back", unless used in conjunction with a phrase such as "where faeces/stool passes".

*I think that (anal sex) is having sex when a man puts his penis behind a woman's back side, behind... in the buttocks... where the faeces pass. (Ugandan, age 27)*

Across all three languages, terms were used to signify PAI that translate as 'sex from the back'.

*R: I mean having sex 'from the back'.*

*I: When you say 'from the back', what do you mean?*

*R: The area where faeces come out from. (Zimbabwean, age 31)*

In Shona this was phrased as “*nekumashure*” or “*yekumashure ikoko*” (sex from behind there / sex from the back). As illustrated by the quotation below, there is no commonly used term equivalent to ‘anal sex’ in Shona.

*I: When you were in VOICE, you were asked questions... referring to sex when a man’s sexual organ (penis) penetrates a woman’s anus... Do we have a Shona word or phrase to describe this type of sexual intercourse, apart from the way I am describing it?*

*R: Uhmm, we don’t have such a word in Shona... I don’t know... I’ve never heard of it. (Zimbabwean, age 31)*

Participants from all language groups used English terms such as ‘doggy-style’ or ‘dog-style’ to refer to vaginal sex from behind.

## DISCUSSION

The findings from VOICE-D interviews conducted with 88 women illustrate the extent to which PAI is a socially stigmatised taboo behaviour in this sample of South African, Ugandan and Zimbabwean women, and that local terms used to designate PAI are highly ambiguous. In all three countries the language around PAI closely associated it with homosexuality. Terminology referring to sexual behaviour and genitalia tends to be euphemistic and vague, and widely used slang terms such as ‘doggy style’, used by VOICE-D participants in all three countries, can be interpreted to mean either penile-vaginal sex from behind, or penile-anal sex (Mavhu et al., 2008; Stadler et al., 2007). The terms used in the VOICE ACASI question on PAI were assumed or interpreted by many participants to refer to PVI, which may in part account for the high levels of reporting of PAI during VOICE ACASI. The re-phrasing of the Zulu ACASI PAI question resulted in slightly lower reporting. Nevertheless, misunderstanding of the question occurred in all three countries; it remains unclear whether the terminology was more ambiguous in Zulu, Luganda or Shona. As there was variability in the reported prevalence of PAI across sites, it is likely that participants’ understanding or lack thereof, of the PAI question, was only one factor accounting for the reported level of PAI across the three countries during VOICE. The findings from VOICE-D demonstrate the challenge in

identifying appropriate and acceptable translated terms for PAI in Shona, Luganda and Zulu in light of high social stigmatisation.

A tenth of participants reported PAI in the IDI but not in ACASI; 23 of the participants who had reported PAI in ACASI did not do so in the IDI. The findings indicate that there were inaccuracies in both reporting modes for complex reasons, highlighting the challenges researchers face in estimating this sexual behaviour.

### *Misinterpretation of research terms*

Data accuracy is jeopardised when research participants misinterpret questions (O'Sullivan, 2008). Many researchers investigating sexual behaviour have made assumptions about how participants interpret terms for sexual acts, without unpacking the nuances in sexual behaviour terminology and the effects these have on data (Duby & Colvin, in press). Even when research terms have been carefully selected and instruments field-tested there is scope for ambiguity. As shown by VOICE-D findings, ACASI does not provide opportunity for identifying inattention or miscomprehension, and data inaccuracies arise when participants misinterpret ACASI items. Participants are unlikely to admit when they do not understand terms or questions, or may interpret terms differently than researchers intended (Binson & Catania, 1998). In VOICE-D, some participants retrospectively reported answering the PAI question in ACASI based on their understanding that it referred to PVI. In cases such as this, FTFI methods have the benefit of interaction between interviewer and participant, which can build rapport and trust between interviewer and participant, and provide an opportunity for identifying participant miscomprehension or inconsistency (Mitchell et al., 2007; Parker et al., 1991; Plummer et al., 2004). Nonetheless, it is often not possible to distinguish between misinterpretation of questions and intentional misreporting.

### *Understanding the cultural context*

Despite pretesting ACASI instruments, sensitive sexual behaviour terms were misunderstood. Pre-testing research tools does not necessarily ensure the terms are easy to comprehend; endeavouring to understand the cultural context in which research is being conducted is critical (Mavhu et al., 2008). Cross-cultural translation of research terms is subject to the 'cultural equivalence' factor, referring to the way in which members of different cultural and linguistic groups perceive or interpret the meaning of a research term.

Local culture and norms may affect the way in which research participants interpret and respond to research questions (Peña, 2007). As illustrated in the broader literature and by VOICE-D participants' reactions to the body mapping activity and responses to questions, there are linguistic rules about sexual communication and cultural prohibition of open discussion of sexual behaviour in many African contexts, including South Africa, Uganda and Zimbabwe (Eaton et al., 2003). Terms for genitalia and sexual behaviours, particularly in the vernacular, are ambiguous and non-specific in most languages (Xaba, 1994).

### *Shona linguistic taboos*

In Zimbabwe, the subject of sex is shrouded in secrecy and shame (Vos, 1994); sex is commonly referred to as "*zvinonyadzisira*", meaning 'that which is embarrassing or shameful'. Linguistic restrictions in the Shona culture frame discussion about excretory and sexual organs as obscene and offensive; such words cannot be used in public without causing embarrassment to both speaker and listener (Chabata & Mavhu, 2005; Mabaso, 2009). Many ambiguities exist in the Shona language. For example, the words "*mhata*" and "*mudhidhi*" can refer to various parts of the ano-genital region, depending on the dialect. The Karanga ethnolinguistic sub-group use the term "*mukosho*" (anus) freely, but other groups consider this word to be offensive, preferring the more euphemistic "*kumashure* (at the back) to refer to the anus. Many Shona-speaking participants in VOICE-D stated that there was no explicit Shona term for 'anal sex'. The terms "*mukodo*" and "*mufongo*" (sexual intercourse from the back or dog-style) are deemed impolite and taboo (Mangoya, 2009). In the absence of a formal term for PAI, the only way to ensure comprehension is by showing a visual representation or providing a graphic anatomical description, such as 'the back part where you pass faeces/stool from' (*nekumashure kwenyu kwamunoita nako tsvina*) in order to clearly distinguish PAI from PVI 'from behind' (Mavhu et al., 2008).

### *Zulu linguistic taboos*

The Zulu cultural norm of "*hlonipha*" (respect through avoidance) dictates which terminology is acceptable for certain speakers in specific settings (Fandrych, 2012). Linguistic taboos around sex mean that Zulu translators often choose ambiguous terminology, avoiding direct translation of terms for genitalia and sexual behaviours, which would be considered obscene, even in materials providing information on sexual health (Ndlovu,

2009). Cultural sensitivity towards explicit terms was evident when re-translating the Zulu PAI question in VOICE's ACASI. Site staff suggested using the term "*ezinqeni*" (in the bum); however this term was evidently ambiguous, as demonstrated by its misinterpretation to mean PVI from behind.

### ***Baganda linguistic taboos***

The Luganda-speaking Baganda ethnolinguistic group from Uganda also has cultural taboos around open discussion of sexual behaviour and sexual organs; acceptable terms tend to be euphemistic and indirect (Bell & Aggleton, 2012). Literal and direct translations of sexual behaviour or anatomy terms from English to Luganda, for example the terms "*ekinyo*" (anus) and "*emanna*" (vagina), are considered offensive and vulgar. As a result, achieving exact translation while retaining meaning is not always possible (McCombie & Ssebbanja, 1991).

Our study illustrates the lack of clarity around sexual behaviour terms commonly used in sexual behaviour survey instruments, and highlights the challenges in selecting explicit non-ambiguous terms that are translatable and locally understood. It is generally accepted by translators that in cases where there is no clear equivalent translation, modification of words and concepts is acceptable, particularly when terms are deemed to be socially insensitive (Maneesriwongul & Dixon, 2004). However, these findings demonstrate the potential for confusion, resulting in questionable data. Efforts to be culturally appropriate cause ambiguities to arise where polite socially acceptable terms have been chosen to avoid causing offence or discomfort to participants, especially when these terms are not explicit or precise (Cain et al., 2011). The misinterpretation of the ACASI PAI question by VOICE participants may have resulted from the lack of culturally acceptable or commonly used terms for PAI in the participants' languages.

Using language that is explicit and anatomically accurate can be difficult, especially in relation to behaviours as stigmatised as PAI. Even when precise and unambiguous terms are used, due to social desirability bias, there is a strong likelihood of under-reporting with regards to socially stigmatised behaviours. As demonstrated by VOICE-D, this is particularly the case in sub-Saharan Africa where social codes relating to sexual behaviour tend to be conservative and restrictive, compounded by the criminalisation of PAI in Uganda and Zimbabwe (Mavhu et al., 2008). The cultural sensitivity of sexual communication and social stigmatisation of PAI are likely to have introduced social desirability bias into the reporting

of PAI in VOICE as well as in VOICE-D. In the absence of biomarkers, it is not possible to determine the accuracy of the overall level of PAI reported in ACASI during VOICE.

## LIMITATIONS

Regardless of reporting methods, participants may deliberately misinform or mislead researchers (Turner et al, 2009). Despite the efforts of the interviewers to encourage candid discussion, given VOICE-D participants' assertion that anal sex is not openly discussed, they may have been reluctant to admit PAI and may have claimed they misunderstood what was meant by PAI in VOICE when in fact they had understood. IDIs are subject to social desirability too, and some participants may have been unwilling to discuss or disclose PAI for that reason.

## RECOMMENDATIONS

**1. Accurate and standardised translation of research terms:** Attention to language is crucial in the design of study tools. Selection of words and terms, as well as phrasing of questions affects participants' comprehension, interpretation and responses, as well as impacts on how much or how little participants choose to disclose (Frith, 2000). In order to increase accuracy and consistency in interpretations, questions and terminology should be as clear, comprehensible and unambiguous as possible. That being said, the Shona and Luganda phrasing of the PAI questions in VOICE were explicit, using the phrase "where stool/faeces passes", and there was still misinterpretation. In recognition of the potential limitations of using formal language, some researchers have explored the method of using colloquial or slang terms, or asking participants to come up with their own terms, however this has proved problematic as slang can vary considerably depending on a participant's regional dialect or social grouping (Binson & Catania, 1998). As results from VOICE-D demonstrate, recommended techniques such as cognitive interviewing and group translation (Mack et al., 2013) are imperfect. One solution may be the development of bi-/multi-lingual lexicons to ensure consistency and standardisation in translated terminology; Ramirez et al. (2013) suggest a process for eliciting and field-testing culturally and linguistically valid translations for use in the research setting.

**2. Use of visual aids:** In addition to clear and unambiguous language, visual aids can assist in assessing participants' understanding of questions and terms. For socially sensitive topics, a visual aid can reduce participant discomfort; using the body map template enabled VOICE-D participants to indicate the anatomical areas they were referring to without having to verbalise the words. Two-dimensional pictures alongside text have successfully been used to improve comprehension of health messages in health education campaigns (Dowse et al., 2010). However visual aids may also be interpreted differently depending on the literacy levels of the audience and the cultural context. Visual tools for low-literacy populations should be as accurate and lifelike as possible, while being simple and not overly scientific (Dowse et al., 2010); as was attempted in the VOICE-D body map template. All visual aids should be well researched prior to development, target audiences should be consulted in the development process to ensure that they are contextually relevant, and they should undergo field-testing to ensure their comprehensibility. Evidence suggests that pictorial tools should not replace text or verbal discussion, but can be used in conjunction with text, to avoid misinterpretation (Katz et al., 2006).

**3. Understanding cultural context of research:** Achieving a balance between the acceptability of research terms and their ambiguity can be challenging. Questions on PAI are regularly excluded from surveys and research instruments out of concern that participants will take offence, or because interviewers feel unable to ask about it (Mavhu et al., 2008). In the case of socially undesirable or taboo behaviours, it is important to understand the cultural context, which may shape interpretation and response to sensitive questions (Tourangeau & Smith, 1996). The more explicit and literal terms are, the more likely they are to be deemed inappropriate and offensive. Efforts to achieve unambiguity and clarity are likely to come up against cultural taboos, for example research staff are likely to be subject to the same cultural taboos as participants, and may feel uncomfortable using explicit terminology and diagrams. Researchers need to carefully balance the need for not causing offence, distress or embarrassment, which may be deemed unethical, with the need for data accuracy.

**4. Multi-methods research:** The accuracy of participants' self-reporting should never be taken for granted, therefore triangulating data collection methods for purposes of cross-checking is advisable. Multi-method studies incorporating longitudinal qualitative IDIs alongside methods such as ACASI in future HIV prevention trials might assist in unpacking participants' experiences, sexual practices, relationship dynamics and the social context of

these. IDIs conducted while the study is on-going, may help to identify miscomprehension of terminology. Additionally multiple interviews over time can give the opportunity for interviewers to build rapport with participants, which may counteract participants' unwillingness to disclose socially stigmatised behaviours such as PAI. As processes such as sexual decision-making can be hard to explain through a single interview, the use of multiple interviews over time with the same participants, allows for participants' reflection and gradual increased disclosure, and can shed light on complex decision-making processes and underlying motives for sexual behaviour (Collumbien et al., 2012). Additional tools such as diaries, diagrams, visual aids and body maps, may assist in reporting or assessing participants' comprehension of terms and can be used as part of the interview process.

## CONCLUSIONS

The findings from VOICE-D suggest that there may have been misreporting of PAI by participants during VOICE's ACASI due to misinterpretation of the anal sex question, as well as social desirability bias. Despite efforts to make the anal sex terms accurate by pre-testing and revising them during VOICE, their meaning was frequently misinterpreted by study participants to refer to vaginal sex from behind. These findings highlight the challenges in developing sexual behaviour terms for data collection instruments that strike a balance between being unambiguous and specific, while being culturally acceptable. In an effort to balance social appropriateness with non-ambiguous terms across languages, researchers do not always use the most explicit terms available, and this is problematic as it impedes data accuracy and reliability. VOICE-D findings raise two main issues: the first is under-reporting of sexual behaviours due to social desirability bias, which has been discussed at length in the literature. The second relates to inaccurate reporting of sexual behaviours due to miscomprehension of terms. The issue of under-reporting due to social desirability is likely to remain even as clear unambiguous terms are found. However the issue of miscomprehension also has roots in stigma and taboo, since veiled and ambiguous language around PAI makes clear communication difficult. Clinical trials that have a longitudinal qualitative component running alongside the quantitative component, are more likely to build a comprehensive picture of participants' sexual lives, perceptions and experiences.

## CHAPTER 8

# Sexual Scripting of Heterosexual Penile-Anal Intercourse amongst participants in an HIV prevention trial in South Africa, Uganda and Zimbabwe

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### SYNOPSIS

Chapter 8 presents data from VOICE-D relating to the social and relationship contexts in which PAI takes place, using the sexual script theory as a theoretical framework with which to analyse the data. This chapter presents data from the VOICE-D study and uses the theory of sexual scripting to interpret and analyse the data. The discussion of the chapter examines how the sexual scripting theory can help us to understand heterosexual PAI in sub-Saharan Africa, and women's risk of contracting HIV. This chapter proposes that sexual scripts for PAI are different to that of penile-vaginal intercourse (PVI) for a number of reasons, and in order to understand women's risk behaviour, and in order to design effective HIV interventions, we need to understand the scripts that inform women's sexual decision-making and behaviour.

## ABSTRACT

Sexual risk-taking is influenced by individual, interpersonal and social factors. We present findings from VOICE-D, a qualitative follow-up study to VOICE, a clinical trial evaluating biomedical HIV prevention products among African women. VOICE-D explored reporting of sensitive behaviours during the VOICE trial including heterosexual penile-anal intercourse (PAI) and factors associated with this behaviour. In-depth interviews were conducted with 88 women from South Africa, Uganda and Zimbabwe. Findings reveal that despite its social stigmatisation, women engage in PAI for reasons including male pleasure, relationship security, hiding infidelity, menstruation, vaginal infections, money, and beliefs that it will prevent HIV transmission. In addition, participants described experiences of non-consensual PAI. We used the sexual scripting theory as an analytical framework with which to describe the socio-cultural and relationship contexts, and gendered power dynamics in which PAI occurs. These data on the distinct individual, dyadic and social contexts of heterosexual PAI, and the specific factors that may contribute to women's HIV risk, make a unique contribution to our understanding of heterosexual PAI practice in these sub-Saharan countries, thereby helping to inform both current and future HIV prevention efforts aimed at women in the region.

## INTRODUCTION

Condomless penile-anal intercourse (PAI) is a high-risk sexual activity for HIV transmission; moreover engaging in heterosexual PAI has also been shown to be associated with other sexual practices that increase HIV risk (Kalichman *et al.* 2009). Limited evidence suggests that women in sub-Saharan Africa substitute PAI for vaginal sex for an array of reasons, including as a means of contraception, during menstruation, to ensure relationship stability, and because they perceive it as a way to avoid contracting STIs and HIV (Duby & Colvin 2014).

Sexual decision-making is limited by gendered power inequities; unequal gendered power distribution and male-to-female HIV transmission are correlated (Rosenthal & Levy 2010). Although there is variation between cultures, traditional gender roles generally portray men as the dominant, controlling initiators in heterosexual relationships. Gender norms encourage women to be submissive, prioritising the maintenance of intimate partnerships over their own needs; thus women often engage in sexual practices they are uncomfortable with, or engage in sex when they do not want to (Bowleg *et al.* 2004; Maynard *et al.* 2009; O'Sullivan *et al.* 2006; Roye *et al.* 2013).

As an analytic framework with which to interpret study participants' descriptions of the social and dyadic contexts within which PAI occurs, we used the script theory developed by Gagnon and Simon (1973). Sexual scripting theory provides a contextually grounded approach to understanding sexual behaviour by focusing on socio-cultural directives that guide the conduct of sexual relationships, and frame the organisation and interpretation of sexual interactions; these directives are in accordance with socially prescribed roles based on gender, age, socio-economic class and ethnicity (Bowleg *et al.* 2004, Gagnon 1990, Wiederman 2005). Sexual communication, partner selection, gendered power negotiations, decision-making, risk-taking and the ability to shape one's own and another's actions are central to sexual interactions (Dworkin *et al.* 2007). Therefore using scripting theory is useful in analysing relationship contexts and gendered power dynamics that influence an individual's ability to engage in HIV risk-reduction practices (McLellan-Lemal *et al.* 2013).

Gendered sexual scripts inform agency or power in the dyadic context, determining the capacity to dominate decision-making processes that affect both partners, and the ability to engage in behaviours against a sexual partner's wishes, or to control the behaviour of a partner. Traditional heterosexual gender norms accept male aggression and dominance over women, condoning violence in sexual and intimate partnerships (Flood & Pease 2009). Women's lack of sexual agency and control over their own bodies facilitates their exposure to HIV (Dworkin *et al.* 2007, Kaufman *et al.* 2008, Pulerwitz *et al.* 2000, Rosenthal & Levy 2010).

The culturally scripted expectation that women should defer to a male partner's sexual needs, gives primacy to male pleasure at the expense of safer sex measures. As such, women tend to leave condom initiation and use to men, and also accept that men can have multiple sexual partners (Dworkin *et al.* 2007, Norris *et al.* 2004). Research in sub-Saharan

Africa has shown that women with the least power, and those who fear violence or negative relationship outcomes, are at the highest risk for HIV infection. They are also the least likely to be able to effectively negotiate condom use and other safer sex practices (Kaufman *et al.* 2008).

In order to understand heterosexual PAI practice in sub-Saharan Africa, and its potential contribution to HIV transmission to women, it is critical to identify motivations for engaging in it, the contexts in which it takes place, and the processes of sexual decision-making that result in PAI (Tanner *et al.* 2009).

As indicated above, there are studies that investigate gendered power and lack of sexual agency experienced by women in Africa. However evidence is lacking with regards to relationship dynamics as they relate to heterosexual PAI. Sexual decision-making and risk-taking for heterosexual PAI and penile-vaginal intercourse (PVI) are likely to differ (Roye *et al.* 2013). This paper presents data from one of the first studies to examine gendered power and sexual scripting for heterosexual PAI, as well as the behavioural and social contexts in which heterosexual PAI takes place in three Sub-Saharan African settings.

## METHODS

VOICE was a multisite placebo-controlled phase IIB HIV clinical prevention trial conducted between 2009 and 2012, to test tenofovir-based pre-exposure prophylaxis HIV prevention products, a daily vaginal gel and two daily oral tablets (Viread® and Truvada®). Participants were 5,029 women enrolled in Zimbabwe (N=630), Uganda (N=322) and South Africa (N=4,077) (Marrazzo 2015). During VOICE, participants self-reported their adherence to study products, and their sexual behaviour, using pictorial audio-computer assisted self-interview (ACASI). One ACASI question assessed engagement in PAI in the past three months. Across all VOICE sites, 17% of women reported PAI at baseline; this varied between 7% in Uganda and Zimbabwe, to 20% in South Africa.

VOICE-D was a qualitative follow-up study implemented in October 2012 after completion of VOICE. VOICE-D took a broad approach to explore sensitive behaviours reported during VOICE, and to understand experiences, motivations, and the role of context in participants'

sexual behaviour during the trial. In-depth interviews (IDIs) were used to investigate perceptions and practice of PAI amongst participants. Ethical approval for VOICE-D was obtained from ethics committees at each of the study sites in Zimbabwe, Uganda and South Africa and collaborating institutions in the United States and South Africa. Site interviewers were trained female qualitative researchers, bi-lingual in English and the site local language.

Participants were pre-selected for participation to ensure that at least 10% had reported engaging in PAI whilst enrolled in VOICE, and approximately 10% had acquired HIV. Those participants who had previously reported PAI in ACASI were not alerted that this was a stratification criterion; interviewers did not know whether participants had reported PAI during VOICE, and interviews were not targeted towards their specific reporting of the behaviour. IDIs were conducted in participants' language of preference (Zulu, Luganda, Shona or English) and followed a semi-structured format. At the beginning of each IDI, the interviewer administered a demographic questionnaire.

Audio recordings of IDIs were transcribed verbatim into their original language, reviewed by the site interviewer, translated into English, and then reviewed again. A codebook was iteratively developed reflecting the study's key objectives and topics that emerged through reading the data. Qualitative data were coded and thematically analysed using the NVivo 10 software package (QSR International) by a team of four analysts;  $\geq 80\%$  inter-coder reliability was established and verified on  $\sim 10\%$  of the transcripts throughout the coding process.

## RESULTS

Table 9 presents demographic characteristics of the study sample (N=88), by country. Although almost all participants (95%) reported having a current primary sex partner, marital status varied by site, ranging from most (85%) married in Zimbabwe to none in South Africa. A similar pattern was reported for cohabitation. Whereas women in Zimbabwe and South Africa reported an average of 2-3 lifetime sexual partners and no other partners in the past 3 months, some Ugandan participants reported engaging in transactional sex; the sample from this site reported an average of 31 lifetime partners, and 16 in the past 3 months.

**Table 9: Demographic characteristics of VOICE-D sample**

Demographic Characteristics	All countries N=88	South Africa N=40	Uganda N=22	Zimbabwe N=26
Age (median, mean, range)	27, 28.6, 20-40	25, 26.7, 20-40	31, 31, 20-39	30, 29.5, 22-40
Completed secondary school or more	37 (42%)	20 (50%)	3 (14%)	14 (54%)
<b>Religion</b>				
Christian	79 (90%)	37 (93%)	16 (73%)	26 (100%)
Muslim	6 (7%)	-	6 (27%)	-
Other / None	3 (3%)	3 (8%)	-	-
Regularly attends religious services (1+/week)	78 (89%)	33 (83%)	19 (86%)	26 (100%)
<b>Relationship / sexual partners</b>				
Currently married	35 (40%)	-	13 (59%)	22 (85%)
Has current primary sex partner or married	84 (95%)	38 (95%)	22 (100%)	24 (92%)
Number of sexual partners in lifetime (median, mean, range) <sup>1</sup>	2, 9.9, 1-99	2, 3.3, 1-15	5, 31.2, 2-99	1, 2.1, 1-10
<b>Among those with current primary sex partner or married</b>				
Currently living with primary sex partner	37 (44%)	5 (13%)	10 (45%)	22 (92%)
Partner provides financial support	74 (88%)	32 (84%)	20 (91%)	22 (92%)
Vaginal sex in past 3 months with primary sex partner	83 (98%)	37 (97%)	22 (100%)	24 (100%)
Number of other partners in last 3 months (median, mean, range) <sup>1</sup>	0, 4.1, 0-99	0, 0.1, 0-1	1, 16, 0-99	0, 0, 0-1

The data presented below relate to perceptions and attitudes towards PAI, motivations for PAI, gendered power dynamics, and relationship contexts in which heterosexual PAI takes place, including forced PAI. Direct quotations (translated) from participants are presented in italics, followed by brackets giving details of the nationality and age of the participant, as well as their reporting of PAI in both VOICE ACASI and VOICE-D IDI.

### ***Perceptions of and attitudes towards PAI***

#### **Anal sex taboos**

The introductory statement to the anal sex section of the interviews, that approximately 900 women in VOICE had reported having had PAI in the past three months, elicited a range of reactions from VOICE-D participants including shock, disgust, embarrassment, amusement and disbelief.

*Nobody has anal sex... There is nobody who does that, there isn't... this (vagina) is the part where you have sex. Why would you have sex in the anus...? (South African, age 39, PAI not reported in ACASI and IDI)*

The general opinion expressed by participants was that due to social stigma and shame, if a woman did engage in PAI, she would keep it secret, as disclosing PAI would result in people viewing you as a 'loose' woman with no morals.

*(Anal sex) is done in secrecy in Uganda. It is not something you let other people know about. Whoever does it, does so at their own peril... it is done in hiding... because it is a shameful act. (Ugandan, age 36, PAI not reported in ACASI and IDI)*

Cultural prohibition and silencing of anal sexuality was also cited; one Zimbabwean participant described the tradition in which *anatete* (aunts) instruct their nieces in the ways of sex, explaining that PAI was not included in these lessons.

*They (aunts) never say your husband will make love to you from that side (the anus) (laughing)... they will tell you that this (your vagina) is your husband's part and it must be thoroughly cleaned. They will never say you can use the other part (anus)... (Zimbabwean, age 30, PAI not reported in ACASI and IDI)*

### **Religious proscription**

Religion influenced perceptions and attitudes towards PAI. As shown in Table 9, 97% of participants categorised themselves as Christian or Muslim. Women, most notably Ugandans, cited their religious beliefs classifying PAI as an unacceptable, shameful and sinful act because the anus was 'created' for defecation, not sex.

*When you are a normal person you should reason and know that such sex (anal sex) is not good. You have sex as God said... directly in the vagina... God... created us that we should have sex through the vagina, so what would be the reason why you should have sex from behind (in the anus)? ...the anus was also created by God... for poo (passing out faeces). (Ugandan, age 34, PAI not reported in ACASI and IDI)*

Participants who expressed religious views described people who engaged in anal sex as sinners using the body for purposes against God's design.

*When I look at those women (who have anal sex) they are no longer human... There is a way God made (us)... He gave a vagina and the anus and there are different ways in which He created them... God put a vagina and an anus and each has its own purpose. The anus passes faeces, and in the vagina is where everything to do with sex is done. (Ugandan, age 39, PAI reported in ACASI but not in IDI)*

Some participants proclaimed that anal sex was ‘inhuman’, only practiced by perverse, ‘messed up’, ‘insane’ or mentally ill people.

*It is horrible... (anal sex) is total madness. Those people are sick... It is not normal (Zimbabwean, age 33, PAI reported in ACASI but not in IDI)*

One participant explained that because the anus wasn’t specifically ‘created’ for sex in the same way the vagina was, anal sex is unsafe and damaging.

*God created the front for (sex)... in the vagina, God created some special friction which is smooth during sex. If you use the anus, it has to be forceful making it easier to get diseases as opposed to the vagina... God created it (the vagina) as an entrance and the anus as an exit. (Ugandan, age 33, PAI not reported in ACASI and IDI)*

### **“Othering of PAI behaviour”**

Many of the participants believed that PAI was introduced into their countries by white people, or by those watching Western pornography, and that the only women who engage in PAI are sex workers, drug addicts and porn stars. Across the three country settings, participants noted a strong association between PAI and homosexuality, intimating that if a male partner requests anal sex from his female partner he must be a ‘closeted’ homosexual.

*If a man turns and wants the anus it shows that he is homosexual... he also wants to do (have sex with) other men... a man should not fantasize having anal sex... If you have anal, it means you are doing it with other men. (Zimbabwean, age 24, PAI not reported in ACASI and IDI)*

### **Illegality of PAI**

The illegality of anal sex behaviour in Uganda and Zimbabwe was cited by some participants in explanation of why the behaviour is improper.

*People get arrested and die in prison for homosexuality and having anal sex. It is not good... There is an opening (vagina) for that (sex)... (anal sex) is not normal... it is not talked about openly... It is embarrassing and it can get you arrested meaning it is not good. (Zimbabwean, age 34, PAI not reported in ACASI and IDI)*

## *Relationship context and gender power dynamics of PAI*

### **PAI in casual relationships**

Despite attitudes that PAI is an embarrassing and shameful behaviour, 23% (20/88) of VOICE-D participants (South Africa N=11/40, Uganda N=6/22, Zimbabwe N=3/26) disclosed their own past anal sex experiences in the interviews. When asked to comment on the relationship contexts in which PAI might be practiced, women generally regarded PAI as inappropriate behaviour for married heterosexual couples.

*(Anal sex) is practiced between people who are just using each other... They don't love each other... I don't believe that there is anyone who can do such a thing to someone whom he loves... this place (anus) is very bad. (South African, age 21, PAI not reported in ACASI and IDI)*

### **PAI for male partner satisfaction**

Illustrating gendered power and sexual scripting, most of the participants who disclosed having had PAI themselves said that despite not wanting to, they had done so in order to satisfy male partners. Women explained that if you love your partner, you must consent to whatever is necessary to 'make him happy'.

*You can't refuse if you love him... you agree to everything. (South African, age 39, PAI not reported in ACASI and IDI)*

Demonstrating the importance of male pleasure, some women explained that they derive pleasure themselves simply through pleasing their partner.

*How can you not like the things that please your husband? (Zimbabwean, age 22, PAI reported in both ACASI and IDI)*

### **PAI to ensure relationship security**

Participants suggested that women consent to have PAI as a means of ensuring relationship security, in the hope that agreeing to whatever kind of sex a male partner requests will give him no reason to leave and find another woman.

*If you refuse anal sex, who do you want him to do it with? That's what makes men to cheat... stepping out of marriage, so it's better to do all the things he wants. (Zimbabwean, age 22, PAI reported in both ACASI and IDI)*

Despite sentiments that PAI is inappropriate behaviour for a married couple, maintaining relationship security and avoiding a partner's wrath were seen as sufficient motivation for women to engage in PAI.

*If (a man's) wife refuses, he shuns her, he calls her stupid... Because she does not want to lose her husband, she starts to use it (anus) and yet as married people, they should not be using it (anus)... (but) she does not want him to leave. (Ugandan, age 26, PAI reported in both ACASI and IDI)*

### **Lack of female partner agency**

Across all settings, participants described the lack of agency that women have in the sexual domain, where male partners control and initiate sexual interactions. Women insinuated male ownership of the female body and the prioritisation of male sexual pleasure, describing the female body as being at the disposal for men to use as they wish. Thus, participants felt that they lacked the agency to refuse PAI when their male partners demanded it, even if they felt uncomfortable.

*I do it (anal sex) for my partner, I don't want to disappoint him... I'm not comfortable with anal sex... but I do it for (him)... (women) do it to make their partners happy... it's the man who tells you to stand, turn around and do what he tells you to do. (South African, age 27, PAI reported in both ACASI and IDI)*

With men as the initiators and aggressors in heterosexual sexual interactions, women explained that the threat of physical violence if they refuse, compels them to comply with a partner's wishes.

*A man comes up with that idea (to have anal sex)... While you are having sex, maybe a man would tell you to turn and you just turn and do what he says... it's not easy to refuse... women are afraid to speak for themselves... afraid that a man might beat them and accuse them of cheating if they refuse. (South African, age 26, PAI not reported in ACASI and IDI)*

## **Forced PAI**

Six participants shared their experiences of having been forced to engage in PAI by their male partners. Some felt that the pain and physical trauma experienced as a result of unanticipated receptive PAI enhanced the abusive nature of it.

*You don't want to and he (partner) ends up putting it (penis) in there (anus) by force... if you don't want to, he will keep on touching you and end up putting it in there (anus)... What are you going to say if a person is pushing by force, because that's a fight right there... The problem is males want it (sex) every time... it's not like you decide that today I would get it... He will then make you bend and put it in your anus... with me, I just don't have the energy... if you said you don't want to, he will start pushing you by force... I do it because I'm forced... not because we agreed. (South African, age 33, PAI reported in IDI but not in ACASI)*

## **'Accidental' PAI**

Six participants described having experienced situations in which a male partner has inserted his penis into her anus supposedly 'by accident'. One sex worker described a situation in which she refused a client's request for PAI, agreeing to have PVI with him, only for the client to penetrate her anus claiming that it was 'accidental'.

*Most men are perverted, they want the anus, (laughs) they leave (the place) where you had agreed on (the vagina) and go to the anus... I don't allow anal sex... I push you away because I can't do it (anal sex)... I pull you (penis) out... You may get one (client) who asks you "can I go to the anus?" and you say no, so if you refuse he may pretend to do it to look like it was by accident... that was his purpose... You feel it when he is still on top because it (anus) is narrow and so if he starts to enter the anus you feel it... (then) I get him (his penis) and take him away (out of the anus). (Ugandan, age 25, PAI reported in IDI but not in ACASI)*

## **Motivations for PAI**

### **PAI as safer sex**

Despite its stigmatisation, participants described various scenarios in which a woman may engage in PAI. Some participants suggested that a woman might consent to PAI believing

that it is 'safer' than PVI, and that by engaging in PAI she is reducing her risk of contracting STIs and HIV.

*Some women think that anal sex is safer (than vaginal sex)... (they) think anal sex minimizes the risk of her contracting sexually transmitted diseases... She then engages in anal sex, haaa, this issue is so complicated (laughing). (Zimbabwean, age 30, PAI not reported in ACASI and IDI)*

### **Physical sensation of PAI**

Other reasons heterosexual men and women may engage in PAI have to do with the physical sensation of anal versus vaginal sex. Some women described the vagina being too loose; "the hole is too big in the front". Thus penetrating the 'narrow', 'tight' anus, feels like "having sex with a virgin", which is more pleasurable for the male partner. One participant explained that men are able to ejaculate more quickly through PAI than PVI, viewed as beneficial for both men and women. Participants explained that men enjoy 'rough' sex and the tightness of PAI that a parous vagina no longer offers.

*The (anus) is narrow... in the anus, he has to struggle to enter... when I surrender to a man to have sex with me... because I have had many children, there is no need for him to struggle, because my vagina is wide, he enters easily without struggling. But men love narrow places... they want the entrances to be narrow so that they can force themselves inside. (Ugandan, age 25, PAI reported in both ACASI and IDI)*

The description of male preference for the tighter sensation of PAI was a commonly recurring theme; according to participants, loss of vaginal elasticity may result from either sex or childbirth.

*The anus is tight since a baby's head never came out of it... They say that normal sex doesn't feel good because it's too loose there... the real thing (the vagina) has been through too much and has been made loose due to childbirth. The anus is not yet loose. (South African, age 40, PAI not reported in ACASI and IDI)*

Some women suggested that once a man has experienced the sensation of PAI he will no longer derive pleasure from PVI.

*A man can't have vaginal sex after anal sex... every time he comes he will be asking for anal sex... they enjoy it more than sex from the vagina... because the anus is narrow. (Ugandan, age 25, PAI reported in IDI but not in ACASI)*

In illustration of the role of sexual arousal in sexual decision making, two participants who disclosed having had PAI felt that although a woman is unable to refuse a partner's advances, if she is 'turned on' (sexually aroused) she will no longer care what he makes her do. A fifth (4/20) of VOICE-D participants who spoke of their own experiences with PAI in the interviews said that they derived pleasure from PAI; of these, three said that they had begun to enjoy PAI after engaging in it repeatedly.

*I am now used to it. It's now in the blood... I enjoy it now... I just got comfortable with it and got into tune. (Zimbabwean, age 22, PAI reported in both ACASI and IDI)*

One participant said that after becoming accustomed to anal sex, she started to enjoy it more than PVI.

*When you start doing it, it is painful, but once you get used to it, it feels good... It is better than vaginal sex. (South African, age 23, PAI reported in both ACASI and IDI)*

Another participant admitted to enjoying PAI more than her male partner, describing occasions on which she has requested to engage in it, only for him to refuse.

*It depends on whether or not a man likes to have anal sex. If he doesn't like to, you can't force him... you can't bully him into doing it if he doesn't want to. (South African, age 25, PAI reported in both ACASI and IDI)*

### **PAI to maintain the vagina**

Female motivated reasons to engage in PAI included the maintenance of vaginal elasticity and tightness.

*(Anal sex) is good for the front (vagina) because you don't get loose (vaginal elasticity) too soon... when you do it at the back. (South African, age 23, PAI reported in ACASI but not in IDI)*

Linked to the maintenance of vaginal elasticity, some participants suggested that women who are being unfaithful to a primary partner would have PAI to mask their infidelity, suggesting that their unfaithfulness would be detected if the vagina had been penetrated by another man. One South African participant explained that the primary partner would discover the "amanzi endalo" (natural water) remaining in the vagina after PVI with the

extra-marital partner; therefore, she explained, it is safer to tell your extra-marital partner to “go to the anus”.

### **PAI as relief when PVI not possible**

Penile-vaginal penetration during menstruation was regarded as inappropriate as men should not come into contact with menstrual blood, a ‘dirty’ substance. Therefore engaging in PAI as an alternative to PVI was described as a way for male partners to ‘relieve’ themselves or ‘please the flesh’ during menstruation.

*If he (male partner) is aroused and wants to have a sex with a woman just to relieve himself, only to find that the woman is having her period, then he wants to insert it (his penis) there (anus). (South African, age 33, PAI reported in IDI but not in ACASI)*

Having anal sex while menstruating was described as a means of maintaining relationship security, ensuring that a male partner does not have reason to seek out other sexual partners when PVI is not acceptable.

*(He) forces you (saying) “yes I want, I want” (he wants sex)”... Even if you are in your menstruation period, he will say that “me I want” (that he wants sex)... Then you just have it (PAI)... to keep my marriage. (Ugandan, age 39, PAI not reported in ACASI and IDI)*

One participant described a situation in which her partner forced her to have anal sex after she’d refused to have vaginal sex because she was menstruating.

*I was having my period and he (my partner) knew that... he asked me to take off my clothes... when I refused he said that he would have sex in my anus... I refused. Then he grabbed a hold of me and did it... It was very painful. I didn’t go to the toilet the following day. (South African, age 31, PAI reported in IDI but not in ACASI)*

Participants repeatedly described the obligation that women have to satisfy a male partner’s sexual needs. Thus a woman suffering from vaginal complications, infections, or sores has no option but to agree to have PAI, despite feeling uncomfortable with it.

*(If) the woman has some sores... on the vagina... the kind of sores that will make it difficult... to have vaginal sex... But the man would be craving sex (laughing)... these will be wounds due to STDs... the husband tells the wife that he is so desperate for sex, what can he do (laughing)?... The only way out for the wife is to have anal sex*

*with her husband! (laughing)... What else can the wife do? (Zimbabwean, age 30, PAI not reported in ACASI and IDI)*

Another motivation for engaging in PAI was in instances when the vagina is considered 'too wet'. Vaginal fluid was generally viewed negatively by participants, referred to with words like "dirt". Women who produce a lot of vaginal lubrication were described as having a "problem with wetness", which would result in her male partner forcing her to have PAI.

*People say there isn't too much dirt (vaginal fluids) there (in the anus)... the men involved prefer not to have contact with a woman's dirt... maybe the woman is producing a lot of vaginal fluids... they would not want to have contact with... those fluids... they are avoiding that... This will lead them to have anal sex with a woman... it (anal sex) is just for pleasure and the man doesn't find the messy fluids that will come out (vaginal fluids). (Zimbabwean, age 40, PAI reported in ACASI but not in IDI)*

#### **PAI for money**

Six of the 22 Ugandan participants disclosed engaging in transactional sex; of these six, four reported having had PAI with clients. For sex workers, financial gain was cited as a motivating factor for engaging in PAI.

*Those that engage in anal sex are paid large amounts of money... Someone is lured into anal sex to get a share of the large amounts of money... the men love it (anal sex)... (the women) get involved for the money... If she knows that the pay is good, she will not mind... Prostitutes are aware that they stand to gain financially from it (PAI). (Ugandan, age 36, PAI not reported in ACASI and IDI)*

According to the participants, sex workers get paid approximately five times more by clients for PAI than for PVI, providing a strong incentive to agree to PAI when clients request it.

## **DISCUSSION**

This study conducted with 88 women from South Africa, Uganda and Zimbabwe, demonstrates that PAI is a socially stigmatised sexual behaviour. Many participants were shocked, disgusted and embarrassed to discuss PAI; these findings are congruent with the

limited evidence available from other studies conducted in Africa (Duby & Colvin 2014). The illegal status of PAI in Uganda and Zimbabwe influenced women's perceptions and attitudes towards PAI, as did cultural taboos around the behaviour, and religious beliefs. The social stigmatisation of PAI has roots in its association with homosexuality, religious sinfulness, and the perception that the anus is dirty. Despite social norms framing heterosexual PAI as a socially unacceptable behaviour, 20 VOICE-D participants reported having engaged in PAI, and a wide range of motivations for practicing the behaviour were revealed, suggesting that beneath the scripted 'rejection' of the practice was an acceptance or accommodation of heterosexual PAI. These findings point towards a disjuncture between the social stigmatisation of PAI and the motivations for practicing the behaviour.

Whether they disclosed personal experiences or not, many VOICE-D participants described situations in which PAI might be practiced in heterosexual partnerships, and listed a variety of reasons for engaging in it. As described by VOICE-D participants, motivational cues for women to engage in consensual PAI are largely driven by fulfilling male sexual needs, in order to maintain relationship security and ensure male partner fidelity. Situational cues for PAI were linked to satisfying partner needs when vaginal sex was not possible, including during menstruation or in the presence of vaginal infections or excess vaginal fluid. Women were also motivated to engage in PAI for reasons such as masking their own infidelity, maintaining vaginal elasticity, faster ejaculation of the male partner, and earning more money in commercial sex. One motivating factor that is most concerning is PAI being practiced as a means of avoiding STI or HIV infection. There is insufficient understanding of PAI being practiced as 'safer sex' by women in sub-Saharan Africa; this has only been documented in another study (Duby & Colvin 2014). Although most women did not report favouring, or experiencing pleasure from PAI, three said that they learned to enjoy it, and one admitted preferring PAI to PVI. These findings add further evidence, and from a wider geographic region, to research conducted in East Africa showing that heterosexual PAI is practiced in sub-Saharan Africa for a range of reasons (Duby & Colvin 2014, Schwandt *et al.* 2006).

Penile-anal penetration 'by accident' was another emergent theme, occurring in situations where a male partner inserts his penis into a woman's anus instead of her vagina allegedly 'by mistake' (Exner *et al.* 2008). Researchers in the United Kingdom who found similar narratives of both penile-anal and digital-anal penetration of women being described as occurring accidentally ("it slipped"), suggest a limited ability to assess the extent to which

'accidental slips' were genuinely unintentional or in fact deliberate and non-consensual (Marston & Lewis 2014).

Despite cultural diversity in traditions and customs regulating expressions of sexuality, there are universal commonalities, two of which are relevant to these findings: gendered power disparities and coercive sex (Maticka-Tyndale *et al.* 2005). As revealed by VOICE-D participants' descriptions of the relationship contexts in which PAI occurs, and narratives of PAI being a male-initiated behaviour, imposed as per male prerogative, sexual scripts for PAI conform to conventional gendered power constructs, but suggest that women have even less control over PAI than PVI.

The power inequities inherent in most heterosexual sexual relationships are likely to contribute to the pressure placed on women to follow the submissive script and engage in PAI for the sake of their partner's pleasure. Sexual scripts prioritising male over female pleasure and according primacy to the fulfilment of male sexual needs were evident in the accounts of VOICE-D participants who disclosed having had PAI, describing their experiences as painful. The prioritisation of male sexual satisfaction was evident in participants' descriptions of situations in which a woman who is suffering from vaginal infections, or is menstruating, will agree to have PAI with her partner in order to satisfy his sexual needs, and ensure that he needn't seek satisfaction elsewhere. The description of PAI as an alternative to vaginal sex during menstruation was a common theme in VOICE-D participant narratives, and has been found in other Sub-Saharan African research (Duby & Colvin 2014, Stadler *et al.* 2007).

As seen from the accounts of VOICE-D participants, many women believe that male partners enjoy, and even prefer PAI, due to the tighter sensation of the anus as compared to the vagina. Similar findings regarding male preference for the tighter sensation of PAI have emerged from research in Brazil (Halperin 1999), the United Kingdom (Marston & Lewis 2014) and East Africa (Duby & Colvin 2014). These findings are amongst the first to provide evidence of heterosexual men's preference for the tightness of PAI from these three African countries, although this appears to be consistent with evidence from Africa suggesting a cultural preference for dry and tight vaginal sex, coupled with the perception that friction during intercourse heightens male sexual satisfaction (Braunstein & van de Wijgert 2003, Lees *et al.* 2013).

A common theme emerging from VOICE-D data, supported in the literature, is that of women engaging in sexual behaviours they dislike or are uncomfortable with for the sake of relationship stability and to avoid partner-perpetrated violence (O'Sullivan *et al.* 2006), which may place women at enhanced risk of HIV infection (Jewkes & Morell 2010). Although reasons were listed for women having consensual PAI, the majority of VOICE-D participants who disclosed having had PAI describe the experience as painful, and often associated with force, whether in the context of 'stable' relationships, casual partnerships or commercial sex. Non-consensual, or forced heterosexual PAI is a key theme emerging from both the findings from VOICE-D and other studies from South Africa (Stadler *et al.* 2007), the United Kingdom (Marston & Lewis 2014), and the United States (Maynard *et al.* 2009). These findings add to those from a previous study conducted in South Africa, suggesting that women engage in PAI to maintain relationship security and to avoid violence from their sexual partners (Varga 1997). Receptive heterosexual PAI has been associated with abusive relationships and intimate partner violence; and women who report being in abusive relationships are also more likely to report repeated occurrence of PAI despite disliking it, and less likely to report condom use when engaging in the practice (Hess *et al.* 2013, Roye *et al.* 2013, Varga 1997). The lack of agency that women have to control the timing of PAI, decreases their likelihood of success in using coitally-dependent HIV prevention products. However, the findings of this study suggest that a dual-compartment (vaginal-rectal) daily-use microbicide product could be an important development in HIV prevention.

## LIMITATIONS

VOICE-D participants may not have been candid in disclosing their own opinions and personal experiences of PAI, as social desirability bias can influence responses, particularly in the case of behaviours as socially stigmatised as PAI. These findings only reflect the views of heterosexual PAI from the perspective of women; for a more balanced view it would be important to interview men. In addition, the views expressed in these findings reflect those of the 88 women interviewed, and may not be representative of women in their communities.

### *Scripting heterosexual PAI in Africa*

PAI occupies a taboo place in many cultures, and its practice tends to be shrouded in secrecy and shame. Social stigmatisation has hampered understanding of sexual scripts relating to this behaviour and communication around it (Roye *et al.* 2013). Findings from this study suggest that in the case of heterosexual PAI, there is conflict between sexual scripts functioning at the individual (intrapersonal) level, dyadic (interpersonal) level within the context of heterosexual relationships, and culture-level scripts. One critique of sexual script theory is that its social constructionist underpinning leaves little room for the 'individual scriptwriter' who deviates from the prevailing cultural scenario, in this case represented by an African woman engaging in heterosexual PAI (Giles 2006). Heterosexual women in Africa experience pressure from contradictory scripts operating at different levels: 1) culture-level 'scripts' categorising PAI as a sinful, shameful behaviour; 2) dyadic interpersonal-level scripts informed by power inequities and gender roles stressing the importance of satisfying a male partner; 3) individual-level factors such as sexual arousal and various motivating cues discussed above; with 4) situational variables such as the presence of vaginal STIs or menstruation.

## CONCLUSION

The results of this research provide unique insight into the socio-cultural contexts within which heterosexual PAI occurs, the gendered power dynamics that are at play in the sexual decision-making around PAI, and the complex sexual scripting of heterosexual PAI among women in South Africa, Zimbabwe and Uganda. These findings demonstrate that sexual scripting for heterosexual PAI in sub-Saharan Africa is influenced by a complex array of factors; many of the individual, dyadic and social contexts of heterosexual PAI behaviour are distinct from those of PVI and need to be understood in their own right.

In order for HIV prevention interventions to be successful, situational factors, gender relations, sexual norms and relationship power dynamics need to be considered. Qualitative socio-cultural research helps unpack local meanings, interpretations, perceptions and attitudes that influence HIV risk behaviour and the adoption of prevention methods, enabling an understanding of the lived realities of sexualities and the contexts in which sexual behaviours are enacted (Maticka-Tyndale *et al.* 2005; McLellan-Lemal *et al.* 2013;

Montgomery & Pool 2011). Sexual scripting and decision-making relating to PAI are complex; the HIV transmission risks associated with PAI are exacerbated by taboos that impede effective sexual communication and condom negotiation. Importantly, HIV interventions designed to prevent HIV transmission through PVI may not work for PAI. By working towards an understanding of unique sexual scripts for heterosexual PAI in sub-Saharan Africa, sexual risk-taking and subsequent HIV transmission through PAI can be more effectively understood. With insight into the way in which individuals and communities perceive, construct and individuals make behavioural choices regarding heterosexual PAI and HIV risk, we can design and implement more relevant, appropriate and effective HIV prevention interventions.

Our findings contribute to a greater understanding of the individual, relationship and social-contextual factors that influence perceptions and practice of heterosexual PAI in these sub-Saharan countries. These findings, which identify the specific 'sexual scripts' and gendered power dynamics inherent in heterosexual PAI practice in sub-Saharan Africa, shed light on how heterosexual PAI and related practices might be contributing towards HIV transmission in the region. Evidence from VOICE-D can help to inform current HIV prevention priorities aimed at women in sub-Saharan Africa, as well as future prevention efforts that might address HIV transmission through this high-risk sexual behaviour.

## CHAPTER 9

# Condoms, lubricants and rectal cleansing: Practices associated with Heterosexual Penile-Anal Intercourse amongst participants in an HIV prevention trial in South Africa, Uganda and Zimbabwe

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### SYNOPSIS

This chapter addresses VOICE-D data pertaining to other behavioural practices associated with heterosexual penile-anal intercourse, including condom use, lubricant use, rectal douching and enemas, and rectal use of the vaginal study gel. Like the previous two chapters, this chapter also presents data from the VOICE-D study. The data presented in this chapter relate to behavioural outcomes and practices relating to PAI, namely condom use, lubricant use and rectal cleansing practices. This chapter is important because these practices play a role in enhancing or reducing a woman's risk of contracting HIV through anal sex. This paper is unique in that it is one of the first to document these practices amongst

women in Africa. The majority of published data relating to these practices globally refers only to MSM. Understanding these practices is critical in the design and implementation of HIV prevention programming, and research on biomedical HIV prevention products such as vaginal or rectal microbicides.

## ABSTRACT

We investigated condom and lubricant use, rectal cleansing and rectal gel use for penile-anal intercourse (PAI), during in-depth interviews (IDIs) with women from South Africa, Uganda and Zimbabwe who formerly participated in VOICE, a five-arm HIV prevention trial of two antiretroviral tablets and a vaginal gel. Few studies have addressed practices related to PAI among women; existing data from Africa on condom and lubricant use for PAI, as well as preparatory practices of PAI such as rectal cleansing, are limited to men who have sex with men. Women demonstrated a lack of awareness of HIV transmission risks of PAI and none of the participants reported using condom-compatible lubricants for PAI. Participants described a variety of preparatory rectal cleansing practices. Some participants disclosed rectal use of the vaginal study gel. Understanding practices related to PAI in Africa is critical to microbicide development, as these practices are likely to influence the acceptability, feasibility, and use of both vaginal and rectal microbicide products.

## INTRODUCTION

While heterosexual penile-anal intercourse (PAI) is not widely reported, there is recognition that its role in HIV transmission to women in sub-Saharan Africa may be underestimated (Halperin, 1999; Karim & Ramjee, 1998). Moreover, the focus on women contracting HIV through penile-vaginal intercourse (PVI) may obscure risk via PAI. Engaging in heterosexual PAI has been shown to be associated with participation in other high-risk sexual activities, including having multiple sexual partners, transactional sex, and sex under the influence of drugs or alcohol (Kalichman, Simbayi, Cain & Jooste 2009). Heterosexual men and women

are less knowledgeable than men who have sex with men (MSM) about the HIV risks of PAI, and are less likely to use condoms for PAI (Halperin, 1999; Priddy et al., 2011). The limited evidence that does exist suggests that women, similar to MSM, practice a range of preparatory practices for PAI, but are less likely to use condoms and condom-compatible lubrication for PAI than MSM (Exner et al., 2008).

As early as 1998, Karim and Ramjee warned that HIV prevention studies should consider the effect that PAI may have in the context of microbicide trials, lest a vaginally-applied microbicide gel be perceived by participants to also be protective during PAI. Heterosexual PAI has the potential to significantly reduce the power of vaginal microbicide effectiveness trials; if participants contract HIV via condomless PAI, researchers' ability to detect any protective effect of a vaginal gel may be undermined if vaginal application does not also protect the rectal compartment (McGowan & Taylor, 2010; Mensch et al., 2010). It is assumed that a proportion of HIV infection endpoints in vaginal microbicide trials will result from receptive PAI (Mâsse, Boily, Dimitrov & Desai, 2009).

The physiological and histological nature of the rectum, with denser concentration of receptor immune cells in the rectal mucosa, combined with a thinner epithelium than the vagina, means that a female receptive partner in PAI is at higher risk than she would be in PVI (McGowan, 2013). For both men and women, receptive PAI with an HIV positive male partner is the sexual behaviour with the highest per act risk of HIV acquisition, estimated to be somewhere between 10–20 times more risky than receptive PVI (McGowan, 2013; Baggaley, White & Boily, 2010). In addition to higher reported STI rates amongst heterosexual men and women who report having had PAI, evidence suggests that receptive PAI can also cause reproductive tract infections in women, which increase HIV and STI transmission risks (McBride & Fortenberry, 2010). Additionally, due to factors such as increased rectal viral shedding and degeneration of the single colonic epithelial cell layer facilitated by human semen, the insertive partner in PAI is likely to be at higher risk of contracting HIV in PAI than PVI (McBride & Fortenberry, 2010; Varghese, Maher, Peterman, Branson & Steketee, 2002).

Preparatory practices for PAI such as enemas and rectal douching (RD) are also associated with increased HIV and STI risk, as RD damages rectal epithelia, increasing susceptibility to HIV transmission (Carballo-Diéguez et al., 2008; Fuchs et al., 2007; Javanbakht et al., 2014;

McBride & Fortenberry, 2010). The majority of the data on the association between enemas and RD with HIV transmission have been generated from studies amongst MSM.

Understanding preparatory practices associated with PAI amongst women is crucial in order to design an effective and acceptable microbicide product, whether vaginal or rectal, as they may have an impact on the efficacy and acceptability of a microbicide product (Carballo-Diéguez et al., 2008; Koblin et al., 2002). Additionally, in order to develop acceptable, appropriate and effective HIV prevention products for women in Africa, understanding behavioural factors likely to influence product use, is critical. We investigated condom and lubricant use, rectal cleansing and rectal gel use for penile-anal intercourse (PAI), as part of a qualitative study amongst women from South Africa, Uganda and Zimbabwe, who formerly participated in VOICE, an HIV prevention trial of two antiretroviral oral tablets and a vaginal gel.

## METHODS

VOICE was a multisite phase IIB HIV prevention trial conducted 2009 to 2012, to evaluate the safety and effectiveness of tenofovir-based HIV prevention products: daily 1% tenofovir vaginal gel and two daily oral tablets (Viread® and Truvada®). 5,029 female participants from Zimbabwe (N=630), Uganda (N=322) and South Africa (N=4,077) were enrolled. During VOICE, participants self-reported their adherence to study products, as well as their sexual behaviour, using pictorial audio-computer assisted self-interview (ACASI). One ACASI question assessed engagement in PAI in the past 3 months as follows: “In the past 3 months how many times have you had anal sex? By anal sex we mean when a man puts his penis inside your anus”. Across all VOICE sites, 17% of women reported PAI at baseline; varying between 7% in Uganda and Zimbabwe to 20% in South Africa.

VOICE-D was a two-stage multi-site qualitative ancillary study conducted after completion of the VOICE trial ([www.mtnstopshiv.org/news/studies/mtn003d](http://www.mtnstopshiv.org/news/studies/mtn003d)). This paper includes data collected 2012-2013 during the first stage of VOICE-D, where we qualitatively explored potentially sensitive behaviours, including adherence to study products, anal sex and related practices amongst former VOICE participants. Ethical approval for VOICE-D was obtained from Institutional Review Boards and Ethics Committees at each of the implementing study

sites in Zimbabwe, Uganda and South Africa and collaborating institutions in the United States and in Cape Town.

In-depth interviews (IDIs) were conducted with 88 female participants from four sites in three countries: N=20 each at two sites in Durban, South Africa; N=26 from Chitungwiza, Zimbabwe; N=22 from Kampala, Uganda (data are presented by country; the two sites in Durban were combined for analysis). Participants were pre-selected for participation to ensure that at least 10% had reported engaging in PAI while enrolled in VOICE, and approximately 10% had acquired HIV during VOICE. Those participants who had previously reported PAI in ACASI were not alerted that this was a stratification criterion; interviewers did not know whether participants had reported PAI during VOICE, and interviews were not targeted towards their specific reporting of the behaviour. Interviews were conducted in participants' language of preference (Zulu, Luganda, Shona or English), followed a semi-structured format, and covered two main topic areas of adherence to study products and anal sex. Interview questions relevant for this paper explored participant perceptions of heterosexual anal sex practice in the community, products that women might use before or during PAI, cleansing practices women might engage in, and own experiences of or perceptions of other women's use of study gel for PAI.

Audio recordings of IDIs were transcribed verbatim into their original language, reviewed by the site interviewers, translated into English, and reviewed again. Initial coding began with a preliminary codebook that had been iteratively developed for another ancillary study to VOICE, as previously described (van der Straten et al., 2014). The codebook for VOICE-D was collaboratively modified for the research topics of interests and as new codes emerged through transcript review. Transcripts were coded using NVivo 10 (QSR International) software by a team of four analysts who communicated frequently to ensure standardization. An example of how a portion of text referring to study gel being used during PAI for its lubricating properties would have been coded: parent code SEX, child code ANAL SEX; combined with parent code STUDY PRODUCT, child code GEL; combined with parent code EFFECT, child code LUBRICATES.

In order to establish inter-coder reliability, a pre-selected number of transcripts were coded in parallel by at least two analysts. Inter-coder reliability reports were automatically generated by the software on specific code combinations, such as parent code SEX, child code ANAL SEX. Discrepancies were resolved until  $\geq 80\%$  inter-coder reliability was

established and verified on a minimum of 10% of the transcripts. Coded data were then concatenated into reports by thematic area and summarised, and interpretations of the data were critically discussed until there was group consensus.

## RESULTS

In this sample of 88 former VOICE participants enrolled into stage 1 of VOICE-D, mean age was 29, 95% had a primary partner or husband, and 51.1% and 48.9% were in the study tablets and gel groups, respectively (Table 1). In addition to demographics of all study participants, the bottom section of Table 1 presents prevalence of condom use, lubricant use, rectal cleansing and rectal gel use as reported by the subset of 20 VOICE-D participants who reported PAI during the IDIs. Whether women reported their own personal experiences with PAI or not, they were asked about their perceptions and knowledge of PAI and related practices. Direct (translated) quotes from the IDIs provide insight into participant experiences and perceptions regarding practices associated with PAI.

**Table 10: Demographic characteristics of VOICE D sample, sexual behaviour, and practices associated with PAI**

Demographic Characteristics	All countries N=88	South Africa N=40	Uganda N=22	Zimbabwe N=26
Mean age (range)	28.6 (20-40)	26 (20-40)	29.5 (20-39)	28.6 22-40)
HIV sero-positive	10 (11.4%)	4 (10%)	3 (13.6%)	3 (11.5%)
Enrolled in tablet arm of VOICE	45 (51.1%)	20 (50%)	11 (50%)	14 (53.8%)
Enrolled in gel arm of VOICE	43 (48.9%)	20 (50%)	11 (50%)	12 (46.2%)
<b>Relationship / sexual partners</b>				
Currently married	35 (40%)	-	13 (59%)	22 (85%)
Has current primary sex partner or married	84 (95%)	38 (95%)	22 (100%)	24 (92%)
Mean number of sexual partners in lifetime (range) <sup>1</sup>	9.9 (1-99)	3.3 (1-15)	31.2 (2-99)	2.1 (1-10)
<b>Among those with current primary sex partner or married</b>				
Vaginal sex in past 3 months with primary sex partner	83 (98%)	37 (97%)	22 (100%)	24 (100%)
Mean number of other partners in last 3 months (range) <sup>1</sup>	4.1 (0-99)	0.1 (0-1)	16 (0-99)	0 (0-1)
<b>Among those who reported PAI in VOICE-D IDI</b>	<b>N=20 (23%)</b>	<b>N=11 (13%)</b>	<b>N=6 (27%)</b>	<b>N=3 (3%)</b>
Condom used for PAI	11 (55%)	8	2	1
Any lubrication used for PAI	8 (40%)	7	1	0
Vaseline used for PAI	6 (30%)	6	0	0
No lubrication used for PAI	12 (60%)	4	5	3
Cleaned anus before PAI	2 (10%)	0	0	2
<b>Among those who reported PAI in VOICE-D IDI in Gel arm</b>	<b>N=13</b>	<b>N=7</b>	<b>N=2</b>	<b>N=3</b>
Reported using gel rectally for PAI	3	1	2	0

<sup>1</sup> Values of "99" mean "99 or more sexual partners"

### *Condom use for PAI*

All participants, regardless of personal disclosure of PAI, were asked if condoms hypothetically might be used for heterosexual PAI. The majority (17/26, 65%) of Zimbabwean participants and South African participants (29/40, 73%) believed that condoms would be used for PAI. In Uganda, the majority (13/22, 59%) of participants, however, did not think it possible to use condoms for anal sex, for a range of reasons including the anus being too tight, too small, dry, narrow, hard, and that the condom would tear or get stuck. Some participants asserted that with the anus already being narrow, a condom would increase the girth of the penis, making penetration more difficult.

*It is easier without a condom... because the anus is narrow and he is adding a condom (making the penis thicker)! (Ugandan, age 30)*

### **Condoms unnecessary for PAI – PAI as ‘safer sex’**

Some participants believed that it was not necessary to use condoms for PAI, suggesting that some men and women choose to engage in PAI for HIV prevention, as PAI is seen as a safe alternative to PVI. Indeed, knowledge of anal STIs and HIV transmission via anal sex amongst participants was generally very poor.

*Anal sex does not lead to as many illnesses as the vaginal sex. (Ugandan, age 36)*

The belief that PAI is ‘safe sex’ and the lack of knowledge about anal STIs reduced the incentive for condom use.

*He doesn't use a condom for that (PAI) because the anus is not the same as the vagina (laughs)... the genitals (penis and vagina) carry diseases but the anus doesn't. (South African, age 30)*

The following quotation suggests that a man's motivation to engage in PAI may be rooted in a desire to protect himself from HIV acquisition.

*If a woman is (HIV) positive and the man is negative, he might want to have anal sex with her so that he won't get infected... if one person is (HIV) positive and the other is*

*HIV negative, the negative person won't get infected when having anal sex. (South African, age 23)*

### **Condoms used for hygiene**

Despite the belief that the anus harbours fewer diseases than the vagina, many of the participants described the anus as 'dirty'. Women explained that when condoms are used during PAI, they are generally used for cleanliness, to avoid getting faecal matter on the penis, rather than as a method of protecting against HIV and STI transmission.

*If he doesn't use it (condom) he will come out with dirt from the anus. (South African, age 31)*

*Condoms are used to protect the man from faeces in the rectum. (Zimbabwean, age 31)*

Women expressed the concern that if they engaged in PAI without a condom, their male partner would be disgusted if his penis were to come into contact with faeces, but also that she herself would feel embarrassed if this were to happen.

*Isn't it that the organ in question (anus) is usually dirty? ...the man would be disgusted by faeces so he will use them (condoms) to protect himself. (Zimbabwean, age 29)*

### **Condom negotiation in relationships**

Condom use was associated with casual sex partners and mistrust, and women related challenges in negotiating condom use with 'stable' partners, irrespective of the type of sexual practice. Condom use was generally described as a female-initiated behaviour; consequently, in situations of forced, non-consensual PAI, condoms were not used.

*How is he going to use a condom if he forced me? ...how could we have used it (condom) if we did not even agree to do it (anal sex)? (South African, age 33)*

Among the subset (N=20, 23%) of VOICE-D participants that disclosed having had personal experiences with PAI during the IDIs, 55% (N=11) said that a condom had been used on one or more occasions. Some of these participants said that they had either experienced condom slippage or breakage during PAI due to the physiology of the anus, being 'too tight', 'not smooth', 'too narrow', 'hard', and 'dry'.

### *Lubricant use*

#### **Condom-incompatible lubrication**

Participants were asked their views on whether women might use any kind of lubricants for PAI. No participants reported use of condom-compatible lubrication. 12/20 (60%) of the participants who reported PAI said that no lubricating substance of any kind had been used. Of the eight participants who reported using some type of lubricating substance for PAI, six reported having used Vaseline™.

*Men apply Vaseline on themselves... so that they can be clean... so that it can be fast and slippery. (South African, age 30)*

It is possible that the reportedly high rates of condom breakage during PAI cited by participants may be due to the lack of any lubrication, or the use of Vaseline™ (petroleum jelly), which is known to degrade latex.

*Because it was painful, he applied Vaseline. I don't know why he did that but maybe he thought it would soften things... I didn't feel anything soften, because I didn't want that to begin with... A condom was used... (he applied Vaseline) on me (to my anus)... he then put it (the condom) on... It happened, but it was painful... we finished the first 'round' in the vagina... Then we 'romanced' for some time, then he put on the condom and got into the anus. (South African, age 25)*

Other products that were cited as being used during anal sex for their lubricating properties included cooking oil, moisturiser, baby oil and semen.

*After the vaginal sex, you allow the seminal fluid to flow into the anus and then you can use that (to lubricate). (Ugandan, age 26)*

Women also reported using vaginal fluid to lubricate the anus for PAI.

*You can get some jelly substance from your vagina that will make it easy for a man's penis to slide into your anus. (South African, age 33)*

### ***Rectal cleansing practices***

Only 3/20 participants who reported having had PAI said that they had cleaned their anus before hand. Most of the others said that they did not engage in any preparatory cleansing as either the PAI was unexpected or forced. Home-made enemas administered for non-sexual reasons, such as in preparation for child-birth, were described as common. Despite not reporting their own pre-coital rectal cleansing experiences, many of the women described various cleansing methods that they believed other women engage in as preparation for PAI. Participants described simple methods such as wiping the anus with a cloth or rinsing the rectum with warm water. One participant explained that pre-coital cleansing of the anus and rectum is more difficult than pre-coital cleansing of the vagina.

*You clean your vagina differently than the way you clean your anus. You can insert your finger inside your vagina if you want to but doing that to the anus is difficult... when you need to use your hand to clean the vagina you can do that... using the hand to clean out the dirt (vaginal fluid). (South African, age 20)*

Some women described the use of enemas consisting of cleaning products such as body soap and laundry soap, in preparation for receptive PAI.

*(Women) use soap... to help take out all the faeces from the body... definitely everyone who engages in anal sex first administers enemas to release all the dirt (faeces). (Ugandan, age 25)*

*They are powders... the product for washing (anus in preparation for PAI) is a green solid product... it's green and it can be ground... it looks like sugar. (South African, age 31)*

Similar to reasons for reported condom use for PAI, concern for hygiene was described as the primary motivation for rectal cleansing. Women felt that it was important to ensure that the male partner should not come into contact with any faecal matter, thus a woman needs to ensure that her rectum is clean before engaging in receptive PAI.

*There are faeces... that place is actually for defecating!...(Women) clean themselves using enemas so that when the man enters he doesn't find faeces there... some use enemas with just water, others use enemas with Sunlight soap (dishwashing soap) to clean themselves. (South African, age 33)*

Many VOICE-D participants, perhaps because of their inexperience or stigmatized attitudes towards PAI, expressed no knowledge about lubricating or RD practices.

### ***Study Gel use for PAI***

Participants were asked if they thought that VOICE participants who had been enrolled into the gel arm of the study would have used the vaginal study gel rectally. Some of the participants believed that if the gel provided protection from HIV in the vagina, there would be no reason why it would not have provided protection in the rectum.

*If she (a woman) uses it (gel) for the other job (PVI)... if she can use it in the vagina and it has no problem, she can also use it in the anus. (Ugandan, age 32)*

Some participants suggested that women might have used the gel vaginally or rectally, depending on the type of sex her husband demanded.

*This (anus) would now be another passage that a husband can use during sex... the husband would want to penetrate here... through the anus, then she has to use (gel) there (anus) because that is where the husband will penetrate... if you had reached an understanding with your husband that he can use the vagina and the anus for purposes of sexual intercourse, then it means that you can use the gel for both vaginal and anal sex. (Zimbabwean, age 33)*

Of the participants who disclosed personal experiences with PAI in the IDI, 13/20 had been randomly assigned to the gel arm of the study. Of these gel users, 3/13 (one South African

and two Ugandans) said that they had used the gel rectally, citing reasons such as prevention of HIV transmission.

*I applied the gel on the anus... so that I won't be infected with a virus through the anus... it treated me well (I liked it). It made me hot (aroused)... Here on the vagina when I was having vaginal sex and then here at the back... when I have anal sex, I bend as if I am administering an enema... I applied the gel when I was about to sleep with my partner... If he wanted vaginal sex, I applied it there and if he wanted anal sex then I applied it there... he would tell me where he was going to put in his (penis)... if we were only going to have anal sex... I applied it on the anus. (South African, age 25)*

### **Benefits of rectal use of study gel**

A number of the Ugandan participants talked about their fellow participants using the gel rectally. One reason given was the perception that applying the gel rectally gave them 'the desire' for sex by helping to induce the production of vaginal fluid. Others spoke of women using the gel for its lubricating properties, to make anal sex 'easy' and less painful.

*(A woman) can use it (the gel rectally)... because the anus is dry, she can smear it there... she smears it in the anus... you can put the gel there and it lubricates the anus to enable the man to insert his penis and she (the woman) does not bleed during that sex (PAI)... so that she does not bleed. (Ugandan, age 27)*

*(The gel) helped them to make it easy to enter (the anus) without pain... It wouldn't tear... (because) the anus is hard... (women) used to insert it (the study gel)... to help them enjoy... because it (gel) was slippery. (Ugandan, age 34)*

Some participants described the belief that if you applied the gel vaginally it would provide protection against HIV transmission for the whole body, thus if you applied the gel vaginally you would be protected during PAI.

*I: Do you know of any fellow participant who uses the gel but has anal sex and yet she inserts the gel in the vagina?*

*R: They are many... I work with some of them (fellow sex workers)*

*I: Do they say that they insert it in the vagina?*

*R: Mmmhmm (yes), one says that today, I got one for anal sex. We knew that the medication went to different parts of the body.*

*I: That if you inserted it in the vagina, it would work in the whole body?*

*R: ...Yes, because we thought that it worked in the entire body. (Ugandan, age 26)*

Another participant believed that if you had inserted the study gel vaginally, and started a coital encounter with vaginal sex, then the gel remaining on the penis would be protective.

*It (gel) can be used (for anal sex) especially in our case were we started with vaginal sex. So the gel would still be on the man's thing (penis). (Zimbabwean, age 24)*

One participant described how the vaginal study gel applicator made it easy to insert the gel rectally.

*Because of the way it had a pump she could use it to apply it... in the anus is where she inserts the pump and applies the gel... because of the fact that you are going to have anal sex she only applies in the anus and not in the vagina... Because of the way it (the gel) was slippery... for the anus to be slippery so that those who were having anal sex would apply it (to anus) instead of applying it in the vagina. (Ugandan, age 25)*

Many of the participants were of the view that women would not have used the gel rectally, because they were only instructed to use it vaginally. Some participants suggested that one reason the gel would not have been used rectally was due to the belief that PAI is a form of 'safe sex', which people engage in to avoid contracting HIV and STIs, and thus no gel would be necessary to prevent HIV transmission.

## DISCUSSION

This paper describes practices relating to PAI based on in-depth interviews with 88 women in South Africa, Uganda and Zimbabwe, who had participated in the VOICE trial. The findings suggest that women in these communities lack awareness of the HIV and STI transmission

risks of PAI, experience condom failure in PAI, do not use condom-compatible lubricants, and practice rectal cleansing, sometimes using substances that increase HIV transmission risks. Additionally, we uncovered that some participants enrolled in the gel arm of the clinical trial were using the vaginal study gel rectally.

Based on the accounts from VOICE-D participants, as well as other study findings, condomless PAI is sometimes practiced as a form of 'safe sex' (Duby & Colvin, 2014; Marston & Lewis, 2014; McBride & Fortenberry, 2010; Stadler, Delany, & Mntambo, 2007), due to a lack of information about the HIV and STI transmission risks of PAI. Study participants described condom use for PAI being primarily for hygiene, to avoid penile contact with faecal matter, rather than for protection against HIV and STI infection. Similar findings emerged from a study of heterosexual American women (Maynard, Carballo-Diéguez, Ventuneac, Exner & Mayer, 2009), and another amongst heterosexual adolescents in England (Marston & Lewis, 2014). Additionally, for heterosexual men and women in many parts of the world, condoms are synonymous with contraception and vaginal sex; with the risk of pregnancy removed in PAI, the motivation for condom use decreases (Halperin, 1999; McBride & Fortenberry, 2010). Evidence suggests that PAI is also used as a means of contraception by women in Africa and elsewhere (Duby & Colvin, 2014; Houston et al., 2007). As has been described in prior studies, condom use was associated with casual sex partners and mistrust, therefore women related experiencing challenges in negotiating condom use with 'stable' partners, irrespective of the type of sexual practice (Houston et al., 2007).

Five VOICE-D participants also reported that condoms were not used when they experienced forced PAI. Evidence from other studies suggests that women who sell sex are also more likely to experience coerced condom non-use for PAI, and frequent condom breakage (Alexander et al., 2014; Decker et al., 2013).

Concern has been expressed that the latex condoms that are provided free of charge by government bodies are manufactured and tested for the purposes of PVI, and that they are more likely to fail when used for PAI (Silverman & Gross, 1997). Incorrect use of condoms, combined with use of latex-incompatible lubricants mean that condom failure occurs more often during PAI than PVI, further reducing motivation for condom use (McBride & Fortenberry, 2010). Many of the VOICE-D participants who disclosed having had PAI said

that they experienced condom breakage and slippage during PAI, blaming it on the physiology of the anus.

VOICE-D participants cited various products that are used to lubricate PAI among heterosexuals, including Vaseline™, cooking oil, baby oil, semen and vaginal fluid. None of the VOICE-D participants cited the use of purposefully manufactured latex condom-compatible sexual lubricants for PAI. These findings concur with other evidence showing that the most widely reported lubricants used for any form of sex by both men and women in Africa are petroleum jelly-based products such as Vaseline™, known to degrade latex and cause condom breakage (Geibel, 2013; Priddy et al., 2011). In comparison to petroleum jellies, which are readily available, cheap, and can be purchased easily in both urban and rural areas of Africa, water-based sexual lubricants are expensive, with limited availability (Geibel, 2013). There are still gaps in evidence relating to the safety of lubricants, but it is likely that petroleum-based products cause irritation to the delicate epithelium of the rectum, reducing tissue integrity and facilitating HIV transmission (Geibel, 2013; Gorbach et al., 2012; McGowan, 2013; McBride & Fortenberry, 2010). One study demonstrates an association between lubricant use for PAI and rectal STIs, but was unable to explain causation (Gorbach et al., 2012). Existing data on lubricating practices for PAI in the African context mostly pertains to MSM, who are likely to be more knowledgeable than women regarding lubricant use, due to targeted MSM HIV prevention activities. The use of lubricating products by both men and women may have implications for both vaginal and rectal microbicide efficacy, and needs to be further examined.

VOICE-D participants described the use of enemas comprising soap and water by women in preparation for PAI. Rectal douching with soap-based products, the most commonly used substances, causes damage to the rectal epithelia, thereby increasing susceptibility to HIV transmission (Carballo-Diéguez et al., 2008; Javanbakht et al., 2014). The literature suggests that enemas are a common cultural practice throughout sub-Saharan Africa, used for ritual cleansing, but disassociated from sexual practice (Saethre & Stadler, 2010). The re-use of enema equipment by traditional healers has been cited as a risk factor for HIV transmission (Peltzer et al., 2006). Rectal tissue damage caused by regular enema use, combined with engaging in PAI, may be a contributory factor for HIV transmission in sub-Saharan Africa.

In terms of the feasibility and acceptability of a rectal microbicide product, that pre-coital rectal cleansing appears to be common suggests that a rectal microbicide delivered by

means of a RD may be acceptable among women (Carballo-Diéguez et al., 2008). Researchers are trying to develop a rectal cleansing product that also includes a microbicide agent (Carballo-Diéguez et al., 2008). Pre-coital douching would achieve wide coverage of the rectal mucosa with a protective agent prior to intercourse, which may be a more acceptable form of delivery than current gel formulations of microbicides requiring a large volume of gel to be present in the rectum during penetrative intercourse (Carballo-Diéguez et al., 2008; Javanbakht et al., 2014). A microbicide enema could enhance adherence to pre-exposure prophylaxis as it would fit in with existing sexual practices, for both MSM and women (Leyva et al., 2013).

Additionally, because some women in Africa already use some form of lubricating product for PAI, and evidenced by the reported rectal application of the vaginal study gel by some VOICE-D participants, a rectal microbicide lubricating gel could be an acceptable and feasible product for HIV prevention through PAI (Exner et al., 2008). Consistent with the literature, VOICE-D participants suggested that PAI usually takes place after PVI, in the same coital encounter. It has been suggested that because of this concurrence, a microbicide gel that would be used both vaginally and rectally could be greatly acceptable and have a significant impact on HIV transmission to women (Dezzutti et al., 2012; Gorbach et al., 2012). A single combination gel may provide better protection against HIV transmission than existing single entity gels and at the same time broaden the potential target population which could benefit from such a product (Dezzutti et al., 2012). Due to the differences between the vaginal and rectal compartments' physiology, morphology and function, developing a microbicide product safe and effective for use on both compartments has been challenging. When used rectally, the hyperosmolar properties of the current vaginal gel cause damage to the fragile rectal epithelia, and can produce unpleasant gastrointestinal side effects (Carballo-Diéguez et al., 2008; McGowan, 2013). An innovative dual-chamber vaginal/rectal microbicide gel has recently been successfully developed but is yet to be tested in a clinical trial (Ham et al., 2013). A Phase 1 study, MTN-014, is currently underway investigating a tenofovir-based gel for use in both the rectal and vaginal compartments in women in the United States (for more information go to <http://www.mtnstopshiv.org/studies/4585>).

## LIMITATIONS

Social desirability bias may have influenced participants' responses, particularly in the case of behaviours as socially stigmatised as PAI. VOICE-D participants may not have been candid in disclosing their own personal experiences of PAI and related practices. Moreover, the findings in this paper only reflect female participants' perspectives on the use of condoms, lubricants, RDs and rectal use of the study gel; for a more balanced view it would be important to interview male partners. It is increasingly recognized that the success and acceptability of microbicides may hinge on male partners' support and endorsement, particularly as male partners may be involved in product application. In addition, the views expressed in these findings reflect those of the 88 women interviewed, and may not be representative of women in their communities. Another limitation of the current study is that there was no specific discussion of how use of oral HIV prophylaxis tablets (PrEP) was perceived in relation to PAI and HIV risk; this is another area requiring further research.

## CONCLUSIONS

To the best of our knowledge, this study is the first to describe condom use, lubricant use and rectal cleansing practices related to heterosexual PAI in Africa. Further research is needed to understand practices relating to PAI, and the implications that these have for HIV transmission. Additionally we need to better understand the circumstances surrounding PAI practice, particularly if it tends to be an anticipated activity or not, as this will affect microbicide use. Despite the current focus on MSM in rectal microbicide trials in Africa, there is a need to include women in such trials, and to shed light on the socio-cultural factors that influence condom, lubricating and cleansing practices related to heterosexual PAI. The findings from VOICE-D can inform current HIV prevention priorities aimed at women in sub-Saharan Africa, as well as future education and biomedical interventions to address HIV transmission through PAI.

# CHAPTER 10

## Discussion

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### SYNOPSIS

This discussion chapter begins with a brief summary and overview of the main findings from across all the studies and chapters presented in this thesis. After a summary of the key findings follows a discussion of the major thematic areas that emerged from the analysis of the overall findings. In interpreting the findings, I describe the process in which I have drawn elements from the various socio-behavioural theories introduced in Chapter 3, applied them to the findings, and developed theoretical models with which to analyse and explain the results from this research. Having presented the findings as key themes, and discussed the theories that influenced by analysis, I present the theoretical models that were developed as part of the process of interpreting and explaining the findings. In addition, this chapter includes an acknowledgment of the limitations of this research, comments on proposed directions for future research, and recommendations for how the findings of this research may be applied.

## BRIEF SUMMARY OF FINDINGS

Using a variety of qualitative data collection methodologies in research activities spanning a four year period, the findings presented in this thesis shed light on the multi-layered contextual factors that influence sexual decision-making and risk-taking related to heterosexual PAI behaviour in sub-Saharan Africa, and the implications these contextual factors may have on HIV risk, and in doing so highlight the potential contribution that heterosexual PAI may be making to HIV transmission in Africa. The findings presented in this thesis demonstrate that heterosexual penile-anal intercourse (PAI) is practiced by men and women in sub-Saharan Africa for a variety of reasons, some of which have serious implications for HIV transmission. Taboos, combined with complexities in language and terminology pertaining to PAI impact on people's ability to communicate about PAI practice, and affect the reporting of this sexual behaviour in research and clinical settings. Its social stigmatisation combined with the lack of acceptable unambiguous terminology for anal sex in several languages results in confusion, misreporting and flawed data. The key issues addressed in this thesis cover various aspects of heterosexual PAI practice, namely: HIV transmission through heterosexual PAI; language, terminology and sexual communication around PAI; challenges in conducting research on heterosexual PAI behaviour; the socio-cultural and dyadic contexts in which heterosexual PAI occurs in sub-Saharan Africa; related behavioural practices that may have implications on HIV transmission and HIV prevention; the discourse, conceptualisations and definitions surrounding 'sex' in research, specifically heteronormativity and penile-vaginal normativity in sexual behaviour research and health service provision.

By describing the way in which PAI fits into culturally determined sets of meanings, events and interactions around sexual behaviour more generally, this thesis provides an overview of some of the key issues relevant to understanding this behaviour and the potential role it may be playing in HIV transmission in the region.

Due to penile-vaginal heteronormative assumptions which have guided research focus and health programming, heterosexual PAI has largely been excluded from HIV interventions. Little attention has been paid to the ways in which concepts and terms such as 'sex', 'virginity' and 'abstinence' are defined and conceptualised, and findings show that PAI

occupies an ambiguous and contested place within these concepts. These assumptions and ambiguity have impacted on HIV programming.

Findings demonstrate that many of the multi-layered contextual factors that influence sexual decision-making and risk-taking related to heterosexual PAI behaviour in sub-Saharan Africa differ from those for penile-vaginal intercourse (PVI). Additionally many of the relationship contexts in which heterosexual PAI takes place, and the gendered power dynamics and 'sexual scripts' that frame PAI behaviour, are distinct from PVI behaviour. The findings from this research point towards disjunctures in the sexual scripting of heterosexual PAI, and conflicting motivational cues for and against its practice. On the one hand anal sex is cast as a sinful, disgusting, inhuman behaviour, but on the other hand there are a multitude of motivating factors for engaging in it. These 'disjunctures' or conflicting motivational cues mean that the way in which heterosexual men and women navigate sexual decision-making and safe sex negotiations relating to PAI are complex, and potentially have a negative impact on HIV risk. The HIV and STI transmission risks associated with PAI are exacerbated by the taboos around it, impeding effective sexual communication and safe sex negotiation, and limiting individuals' ability to make informed and empowered decisions.

## KEY THEMES ACROSS FINDINGS

In the interpretation of the overall findings of this research, clear patterns, or thematic areas, emerged. These themes emerged inductively and provided a useful way of synthesising the findings across the chapters. This synthesis of the overall findings enables a measure of robustness and transferability of the findings, as well as enabling increased confidence in the relevance of these findings to HIV prevention in the sub-Saharan African region. From the overall findings, six key thematic areas relating to heterosexual penile-anal intercourse in sub-Saharan Africa emerged: 1) assumptions, 2) language, 3) taboos, 4) motivations, 5) sexual scripts, and 6) sexual practices / behavioural outcomes. In the following section I go through each of these thematic areas one by one, and make overall conclusions based on the findings from across the chapters.

## Theme 1: Assumptions

The thematic area that I have termed ‘assumptions’ encompasses multi-level assumptions that have been made with relation to what the terms and concepts ‘sex’ and ‘sexual intercourse’ refer to, which in turn have impacted on definitions and conceptualisations of related terms such as ‘virginity’, ‘abstinence’ and ‘sexual debut’. The findings situate heterosexual PAI behaviour within the structural frameworks of heteronormativity and penile-vaginal normativity that have shaped research, policy and HIV prevention priorities in sub-Saharan Africa.

Chapter 4 dealt with this theme extensively, in describing the assumptions that have been made in research around how sex-related terms are defined and conceptualised. In presenting the findings from the review I suggested that these assumptions have been driven by the dominant heteronormative paradigm, and by what I have termed ‘penile-vaginal normativity’—the discourse that assumes that terms such as ‘sex’, ‘sexual intercourse’, ‘heterosexual sex’, and ‘coitus’ refer to penile-vaginal intercourse (PVI). Research on sexual behaviour in sub-Saharan Africa, and elsewhere, has in turn been restricted by these heteronormative penile-vaginal penetrative assumptions and the narrow, and often not explicitly stated definitions of ‘sex’ and ‘intercourse’ that have on the whole excluded heterosexual PAI, or at least not openly acknowledged or addressed it.

What has been labelled as the ‘heterosexual African HIV epidemic’ has also been framed by an underlying penile-vaginal assumption, which has in turn informed the design and implementation of HIV interventions on the continent, as well as having influenced research priorities. These assumptions themselves have been shaped in part by the association of PAI behaviour with homosexuality and men who have sex with men (MSM). HIV programming targeting ‘heterosexual’ men and women in Africa has been based on the assumption that PVI is the key transmission vector in the ‘heterosexual sexually transmitted’ African epidemic (differing for example from discourses of the injecting drug user-driven epidemic in Eastern Europe and Asia, and the homosexual male-driven epidemic in the Western world). Any coverage or inclusion of PAI in service provision and safer sex messaging has targeted MSM, despite its widespread practice by heterosexual men and women – (see Note on Language, Appendix 1).

Definitions and conceptualisations of 'virginity' and 'abstinence' based on the penile-vaginal penetrative assumption have also impacted on the sexual behaviour of individuals, for example when young people choose to engage in PAI as a way to maintain 'virginity' and delay 'sexual debut'. Much of the HIV prevention programming targeting young people in Africa has focused on promoting 'abstinence', delaying 'sexual debut' and maintaining 'virginity', without paying sufficient attention to how these terms are defined, interpreted and enacted. The findings presented in the review in Chapter 4, as well in the findings in Chapter 5 and Chapter 6 demonstrate the lack of overt discussion of, and the ambiguity in definitions of virginity.

## **Theme 2: Language**

The theme of language is closely linked with the previous theme of assumptions. I have divided them into two distinct themes since there are specific aspects of these assumptions that relate particularly to the use of language and terminology, assumptions about what certain terms mean, how they can be interpreted, and what their definitions include or exclude. The key element of this theme relates to the ambiguity in language around sexual behaviour and sexual communication, specifically language that has been utilised in research and health programming.

Sexual communication is informed by socio-cultural guidelines outlining appropriate ways of communicating about issues pertaining to sex (sexual communication guidelines are linked to, but not the same as, sexual scripting – Theme 5). Language around sex tends to be euphemistic and indirect, and direct explicit discussion of sex is often perceived to be offensive, inappropriate, embarrassing, uncomfortable and socially unacceptable. Socio-cultural sexual communication guidelines have also influenced data collection activities in research and in the clinical setting, for example when certain questions have been deemed offensive (such as asking about penile-anal intercourse), and are thus not asked, or phrased in a manner which leaves room for ambiguity and different interpretations. Findings demonstrate the complexities and challenges inherent in sexual communication and language around sex, PAI in particular, and the impact of these complexities and ambiguities for sexual behaviour reporting in the research setting.

One example of the challenges in the operationalization of language and terminology was illustrated by the findings presented in Chapter 7. These findings demonstrate the lack of explicit, unambiguous and acceptable terminology to refer to PAI in the three languages in which VOICE-D data was collected, namely Zulu, Shona and Luganda. Where questions on heterosexual PAI have been included in research conducted in sub-Saharan Africa, they have tended to use vague terminology, such as 'sex from the back', which as the findings in Chapter 7 suggest, can be misinterpreted by participants. This has impacted on how PAI has been reported in clinical trials and other research, and is likely to have resulted in inconsistency and data inaccuracy. Challenges relating to language and translation are heightened in cross-cultural multi-site research, as also demonstrated by the findings presented in Chapter 7.

Insufficient attention has been paid to the ambiguities in language relating to sexual behaviour, specifically in the case of translating research terms into languages other than English, and the effects that this has had on data collected in clinical trials, surveys and research more generally. Assumptions have been made about the definitions, interpretations and cultural equivalence of certain terms, particularly in the field of sexual behaviour research. Certain words and terms might be specific to an ethno-linguistic group, dialect or language and may not map precisely onto terms in other languages. This was found to be the case in VOICE-D with the lack of equivalent terms for 'anal sex' in Zulu, Luganda and Shona. These findings highlight "the importance both of looking beyond literal translation of terms from English and of avoiding assumptions of semantic equivalence cross-culturally between apparently similar terms and categories" (Wood et al., 2007). Not only is it challenging for researchers to find appropriate, easy to understand, terms with equivalent meaning in other languages, but balancing this with the need to be culturally appropriate sometimes results in the meaning getting lost in translation. It appears that in some cases, such as in reference to penile-anal intercourse, in certain languages, there is no way to be both completely inoffensive and unambiguous at the same time, posing challenges in the research and clinical settings.

### Theme 3: Taboo

One of the underlying themes inherent in the topic of penile-anal intercourse has its roots in the socio-cultural taboos surrounding this sexual behaviour. Taboos relating to PAI were evident, in different manifestations, in all the chapters and findings. The findings describe how perceptions of heterosexual PAI in the study communities are shaped by religious and cultural norms, taboos, as well as political proscription and general social stigmatisation. These factors are exacerbated by the reality of PAI being a criminalised behaviour in most African countries, including four out of the five countries in which data presented in this thesis was collected: Kenya, Tanzania, Uganda and Zimbabwe. As demonstrated in Chapters 2, 6, 7 and 8, heterosexual PAI practice in sub-Saharan Africa is shrouded in silence, secrecy, shame, avoidance and denial. Taboos and silences around PAI are compounded by negative attitudes towards both heterosexual and homosexual PAI and anal sexuality, often rooted in religious or cultural beliefs, and combined with assumptions made about the type of sex people enjoy and engage in.

Linked also to the first theme of assumptions, taboos have impacted on health service provision relating to anal health and anal sexuality, especially for heterosexual men and women. Findings demonstrate the role that these taboos have played in creating knowledge, information and communication gaps around anal sexuality and anal health, specifically the HIV and STI transmission risks of PAI. Health care providers are largely uninformed about the physiology and biology of anal sex, anal sexuality, and themselves are unaware of the HIV and STI transmission risks of PAI. PAI is not covered in general health worker training and education, particularly heterosexual PAI. Even if health workers are aware of PAI behaviour, on the whole they are unable to talk about it or ask patients about anal sex behaviour due to its taboo status and sexual communication norms outlined above. Furthermore, men and women are unlikely to access anal health care if they need it, due to embarrassment, shame and fear of judgement. Linguistic taboos surrounding anal sex, linked to the cultural guidelines about sexual communication discussed in the previous theme, mean that people are unable to talk about PAI, communicate openly with sexual partners about it, and unable to access information about how to practice PAI safely.

Combined with challenges posed by language, as detailed in Theme 2, the taboos and social stigmatisation of PAI also impact on reporting of the behaviour in the research setting, creating strong social desirability bias, meaning that research participants are likely to

under-report PAI practice. The reluctance of people to disclose PAI behaviour also has implications in the clinical setting, and impedes accurate risk assessment and appropriate service provision.

## **Theme 4: Motivations**

Despite the taboos that relate to PAI, the shame and stigma attached to its practice, and the cultural, religious and legal proscription of the behaviour, as demonstrated in Chapters 2, 6 and 8, there are a multitude of reasons that many men and women in sub-Saharan Africa engage in heterosexual PAI. Some of these reasons, like those for any other sexual behaviour, include PAI being part of a normal sexual repertoire, with men and women engaging in PAI for sexual pleasure, enjoyment, intimacy and fun. However motivational cues for PAI, indeed for any type of sex, are far more complex and multi-faceted than simply sexual pleasure.

Some of the reasons people engage in heterosexual PAI have to do with the physical sensation of PAI due to the specific physiology of the anus, as seen in findings presented in Chapters 2, 6 and 8. The anus is tighter than the vagina, which some men find more pleasurable, and also makes some men ejaculate faster than they would in PVI. Faster ejaculation is regarded as beneficial by some women, who either want to get the sex 'over with', or sex workers who are incentivised to ensure that client interaction is brief. Additionally the rectal cavity is drier than the vagina, enhancing friction on penetration, which is also perceived to be more pleasurable by some men, especially in sub-Saharan Africa. The tightness of the anus was also referenced by women in Chapter 6 who described that in cases where a male partner has a small penis, in vaginal sex you may not be able to 'feel' him, and thus anal sex would be better. Findings in Chapter 8 also showed that PAI is perceived to be preferable when a woman's vagina has stretched either due to childbirth or having had regular penetrative vaginal sex over a long period of time.

Men and women also engage in heterosexual PAI for a range of practical reasons, such as a form of contraception, to protect the hymen, during menstruation, in the presence of vaginal STIs, to hide infidelity (so a partner will not detect a wet or stretched vagina), or as a more comfortable form of penetrative sex during the late stages of pregnancy. Many of the

factors influencing women's engagement in PAI have to do with the next theme, gendered power and sexual scripting, which relate to women wanting to please their male partner/s, to maintain relationship security, to enhance intimacy, or simply women lacking the agency to say no to a male partner's demands. Gendered sexual scripts determine the expectation that women should provide penetrative sex to a male partner whenever he requests it. In cases such as this, PAI provides a practical alternative form of penetrative sex when vaginal sex is problematic. Linked to this, and also covered in the next theme is the practice of heterosexual PAI as a result of force or coercion.

Another practical reason people elect to have PAI, linked to the exclusion of PAI from public health programming, is in situations where PAI is practiced as a form of 'safe sex', as a result of the belief that HIV and STIs are not transmitted through PAI.

Some of the reasons people engage in heterosexual PAI are linked to its taboo status, referred to in the previous theme. An example of this is that sex workers are able to command higher prices for PAI than for PVI. Some clients of sex workers consider anal sex as a 'prestige product', due to it being more expensive; and some also believe that the anus is more 'exclusive' than the vagina "where many people go", thus making PAI more valuable and desirable (Chapter 6). Additionally the perceived deviance of PAI, as well as the fact that it can be painful for the receptive partner, mean that PAI is used as means of increasing 'intimacy' and 'closeness' between partners.

Various other reasons that emerged in the findings included PAI engagement as a result of people's inhibitions being lowered after consuming drugs or alcohol. Some people believed that men and women in sub-Saharan Africa increasingly engage in anal sex as a result of watching Western pornography. Some women suggested (Chapter 6) that a motivational reason for women to engage in anal sex is in order to get large buttocks, seen as desirable. Other women believed that engaging in anal sex helps one to retain a youthful body (Chapter 8).

Other reasons people engage in heterosexual anal sex have to do with themes 1 and 2, relating to the ways in which anal sex is conceptualised and defined as not being 'sex'. For example PAI being practiced with an outside (extra-marital) partner as a way of being 'faithful' to a primary partner but not having 'sex' with anyone else, as well as PAI being regarded as a means of maintaining 'virginity' or delaying 'sexual debut'.

## **Theme 5: Sexual scripting, sexual agency and gendered power in heterosexual PAI practice**

Theories of sexual scripting, gendered power and sexual agency were introduced in the methods section, discussed in some of the chapters, and played a central role in the interpretation of the data. Various authors have written about sexual scripting in the context of sub-Saharan Africa and the importance of understanding the socio-cultural context of sexual behaviours; for example in Nigeria (Izugbara, 2008), Malawi (Izugbara & Undie, 2008), and Kenya (Maticka-Tyndale, 2005). However none of these studies have looked at sexual scripting for heterosexual PAI. As far as I am aware, the data presented in this thesis, more specifically in Chapter 8, is the first to use the sexual scripting theory in order to describe and explain heterosexual PAI behaviour in the region. By relating the narratives of individuals who engage in heterosexual PAI, and by describing the relationship contexts in which heterosexual PAI practice occurs, the findings from this thesis have enabled the progression towards an understanding of the specific 'sexual scripting' of heterosexual PAI behaviour in sub-Saharan Africa, and how its practice might be contributing towards HIV transmission in the region.

The findings have described the ways in which sexual scripting, sexual agency and gendered power inherent in the situations in which heterosexual PAI takes place in the context of sub-Saharan Africa are distinct in various ways from sexual scripting for PVI, and need to be understood in their own right. The findings allude to possible disjunctures between existing sexual scripts available to the individual sexual actor, and the dualistic pressures that women in sub-Saharan Africa are subject to, on the one hand casting PAI as a sinful, wrong, shameful behaviour, but on the other hand the pressures from sexual scripts and gender roles that women must please their male partners. The theoretical discussion that will follow in this discussion chapter also expands on the theory of sexual scripting, as it specifically relates to heterosexual PAI, in the development of theoretical models with which I have attempted to illustrate the complexity of sexual scripting, motivational cues and influencing factors that lead to the practice of heterosexual PAI in sub-Saharan Africa.

## Theme 6: Practices

This last of the thematic areas relates to the actual practice of heterosexual PAI in sub-Saharan Africa. In addition to penile-anal penetrative intercourse itself, various practices are associated with the engagement in this sexual behaviour, such as condom use, lubricant use and rectal cleansing (Chapter 9). Some of these practices impact on the risk of HIV and STI transmission between partners, as well as having implications for the acceptability and use of biomedical HIV prevention products such as microbicides.

As set out in the introduction, the behavioural outcomes that we are concerned with also encompass the range of other practices associated with PAI, due to their potential impact on HIV transmission; specific behavioural practices include:

- **Sex act:** whether someone engages in PVI or PAI, and if so, why they do so; the dyadic interaction and sexual decision-making that leads to the engagement in PAI; and to what degree this act is consensual or not.
- **Condom use:** whether a condom is used for the sex act or not; the individual decision-making and dyadic negotiation processes that result in condom use or not; if the condom is used correctly or not; whether condom is used in conjunction with any type of lubricant or no lubricant; whether or not there is condom failure.
- **Lubricant use:** whether any kind of lubricant is used or not; if so, what kind of lubricant is used, and if this lubricant is damaging to rectal tissue; if an oil-based lubricant is used in conjunction with a condom, whether it causes condom failure or not.
- **Rectal cleansing:** whether a woman engages in some kind of rectal cleansing in preparation for PAI or not; and if so why she does so; if she uses a cleansing product or not; if so, whether or not this substance increases the risk of HIV transmission through damaging the rectal epithelia.

To put this into a practical context for HIV transmission, the following two scenarios in which PAI occurs, depict the best possible combination of practices, and the worst possible:

- **Best-case scenario PAI:** no pre-coital rectal cleansing or cleansing with only water; condom correctly used; in conjunction with a water-based lubricant; both partners consent, and no force is used.

- **Worst-case scenario PAI:** pre-coital rectal cleansing with a substance that is damaging to the rectal epithelia; no condom used; no lubricant used; lack of consent and use of force.

A range of other factors may exacerbate or decrease risk of HIV transmission, as outlined above.

When condoms are used for heterosexual PAI, they tend not to be used for HIV transmission but for hygiene, as many people, particularly heterosexual men and women, remain largely unaware of the HIV and STI transmission risks for condomless PAI. Findings also show that condom breakage during heterosexual PAI is common, which could be caused by a lack of any lubrication being used, by the use of latex-degrading lubricants such as petroleum-based jellies, or by incorrect condom usage. Regarding lubricant use, findings show that there is a significant lack of information about and awareness of purposefully manufactured condom-compatible lubricants in the region, but that some men and women use various other lubricating substances for PAI, most commonly petroleum-based products, which are likely to cause condom breakage, and may increase susceptibility to HIV infection.

Additionally various rectal cleansing practices that women engage in, and substances they use to do so, may also exacerbate HIV transmission risk. Although there is no prevalence data regarding pre-coital rectal cleansing behaviour amongst women in sub-Saharan Africa, the findings demonstrate that some women do make use of enemas and other rectal douching methods to prepare for PAI, sometimes using substances that are likely to cause tissue damage to the rectum, thereby increasing susceptibility to HIV infection.

In the context of the findings from the VOICE-D study, these results have implications for microbicide research more broadly, with findings showing that some women enrolled in a clinical trial testing a vaginal microbicide gel were applying the study gel rectally for PAI. In addition, some women applied the gel vaginally but proceeded to engage in penile-anal intercourse, believing that the gel in their vagina would protect them from HIV transmission through PAI. The theme also includes discussion of the impact that these practices have on increasing HIV transmission risks. Additionally this also relates to the potential effect that these practices may have on HIV prevention product use and efficacy, for example a vaginal or rectal microbicide. Understanding these practices associated with heterosexual PAI is vital in order to design effective HIV prevention products that are likely to be acceptable, feasible and effective.

## SYNTHESIS OF FINDINGS AND THEORY

Having synthesised the key thematic areas, in order to interpret and make sense of the overall findings, I found it useful to build theoretical models with which to visually describe the multi-level processes that result in the behavioural practice of heterosexual penile-anal intercourse, and associated practices, in the context of sub-Saharan Africa. In order to build the models, I combined elements from a number of socio-behavioural theories, in attempt to describe how social context interacts with factors at the individual and interpersonal levels of analysis (Eaton et al, 2003). Using theoretical frameworks and conceptual models to describe, explain and interpret sexual behaviours is challenging, as the lived reality of sexual experiences tend not to be rational, calculated decisions, but rather 'in the moment' behaviour affected by emotional and relationship contexts, as well as sexual desire and sexual pleasure (Morrison et al., 2014). However using a visual illustration of factors and influences on individual behaviour can help in the recognition of patterns, trends and interconnections.

### *Multi-level influences & interplay between factors*

The social and cultural environments in which an individual is situated are not the only determinants of individual behaviour. Indeed, in some situations an individual's behaviour appears to contradict socio-cultural norms, as in the case of heterosexual PAI in sub-Saharan Africa. As mapped out in the theoretical framework section in the methods chapter, individual, relationship and social level factors influence the processes of decision-making and sexual risk behaviour (Tanner et al., 2009). Ecological theoretical approaches highlight the need to take into account the multi-layered environmental determinants of individual behaviour and risk. Importantly, when attempting to understand factors that influence sexual risk behaviour, it is critical not only to consider factors at all these levels, but also the interplay and interconnection between factors across levels (Rhodes et al., 2005). In terms of social networks and risk environments, we shall divide these layers into the following (Karney, 2010; Rhodes, 2002; Rhodes et al., 2005):

- 1) **Micro-level:** refers to intrapersonal/intrapsychic factors. The **micro-risk environment** frames individual risk behaviour as a product of the individual's perceived social norms and values.
- 2) **Meso-level:** refers to the proximal context, interpersonal relationships, social and group interactions, and the dyad. The 'dyadic interaction' refers to the mutual exchange of behaviours between two people, through which sexual behaviours are coordinated (in this case 'dyadic' refers to "two individuals maintaining a sociologically significant relationship" (Merriam-Webster dictionary)). The **meso-risk environment** is constituted of factors pertaining to dyadic and interpersonal relationships.
- 3) **Macro-level:** refers to the distal context, and the socio-cultural, structural levels of society. The **macro-risk environment** relates to the policy, public, legal, socio-cultural, historical, economic context, heteronormativity, penile-vaginal normativity, sexual norms and gender norms impacting on individual risk behaviour.

## Using theory to understand HIV risk and HPAI

In this section I synthesise the findings and the theory in an attempt to examine the factors and processes that lead to heterosexual PAI in the sub-Saharan African context. To do so I apply aspects of the socio-behavioural theories outlined in the methods section in Chapter 3, in order to understand and describe the intrapersonal decision-making, interpersonal negotiation processes, and the broader socio-cultural influences that result in the practice of heterosexual PAI in sub-Saharan Africa.

Drawing on the literature, I combine and adapt relevant aspects of various existing models, applying them to the task of understanding heterosexual PAI behaviour and related practices. The theoretical models presented later in this chapter emerged from the data and can be used to describe and explain the multi-level and interdependent factors that influence sexual behaviour outcomes, specifically heterosexual PAI and related practices. The specific task I attempt in this section is to apply aspects of theory in order to understand and explain a behavioural outcome of heterosexual PAI in sub-Saharan Africa, working backwards through all the multi-level factors that influenced that man and woman to engage in PAI, and any other associated practices. If we work with the premise that a

particular sexual behaviour can be understood as 'the end result of a codified (arranged into a system of rules) sequence of events' and sexual scripts are 'the templates used to interpret and respond to situations as sexual', then there should be specific codified sequences of events that lead to heterosexual PAI, and associated practices such as whether condoms and lubricants are used or not (Maticka-Tyndale et al., 2005). It is the nature of these specific codified sequences and contexts that I attempt to describe.

In this next section, I explain the key findings presented in the earlier chapters within the frameworks of the theoretical concepts that guided the analysis and interpretation of the data. The key concepts discussed here include: 1) individual-level motivations for sexual behaviour; 2) the influence of sexual agency and gendered power on individual sexual decision-making, which includes gendered power inequities and HIV risk, and specific gendered power dynamics for heterosexual PAI; 3) the influence of sexual scripting on individual sexual decision-making; 4) the individual social actor's interaction with multiple scripts; 5) and lastly the issue of script disjunctures, specifically for heterosexual PAI in sub-Saharan Africa, including discussion of the differences in sexual scripting for PAI and PVI.

### *Motivations for sexual behaviour*

Starting with individual-level factors that influence sexual decision-making and sexual risk-taking behaviour, we shall refer to 'motivations' or 'motivational cues' for sexual behaviour. As discussed in the methods section in Chapter 3, and seen from Theme 5 discussed above, there are a range of motivational influences on individual sexual decision-making and sexual risk-taking. Some motivations can be described as positive 'approach motivations', incentivised by reward gain, such as sex for pleasure or increased intimacy; others can be understood as negative 'avoidance motivations', driven by the desire to avoid negative experiences, such as preventing partner anger/violence, or preventing partner infidelity (Patrick & Lee, 2010). In a certain situation, an individual is likely to be subject to parallel motivational processes and competing cost/benefit cues to have or not to have sexual intercourse; these can be described as instigating and inhibiting cues for sexual risk behaviour (Cooper, 2002). One set of cues may favour having sex (e.g. wanting to please partner, wanting to feel pleasure) and another set may favour not having sex (e.g. social value of virginity and taboo).

As there may be multiple motivational cues operating in any one situation, there may be conflict between these concurrent motivations. Motivations or cues may exert stronger influence in certain circumstances or situations, and are not static. For example, factors such as increased economic vulnerability or reduced self-esteem could change from day to day, and influence sexual-decision-making and risk-taking. Whether a specific behavioural outcome occurs is dependent on the relative strength of dominant and peripheral cues favouring action or in-action (Cooper, 2002). Expectations and cues are situation specific, and different sexual behaviours hold different meanings depending on the circumstance.

A real-life example of the kind of situation in which an individual experiences parallel conflicting instigating motivations was illustrated in Patience's story in Chapter 2. Patience wanted to please her male partner (approach motivation), and was also motivated to have anal sex with him out of fear that she would be physically harmed if she did not do so, or that he would leave her (avoidance motivations). In Patience's narrative, as well as that of women in the other studies, was evident a woman's sense of dependency on her male partner economically, and the resulting duress to consent to his demands. Patience spoke of her own desire to be financially independent from her partner so that she would no longer have to acquiesce to him.

### *The influence of sexual agency & gendered power on sexual decision-making*

One of the factors that plays a role in a woman's decision to engage in PAI and how she negotiates this choice, and in the process operationalised traditional sexual scripts, is the power or sexual agency that a woman has, or lack thereof (Billy et al., 2009; Roye et al., 2010). As discussed in Chapter 3, many social theorists have moved away from individualistic and cognitive interpretations of risk and tried instead to explain HIV risk-taking behaviour and risk decision-making in terms of factors such as social inequality, power differentials and gendered structural asymmetries (Fontdevila, 2009).

As is evidenced by these findings and in other research from sub-Saharan Africa, there are culturally sanctioned imbalances in gendered power, with sexual decision-making being largely male-dominated, with men controlling the conditions and timing of intercourse

(Hoffman et al., 2006; Kaufman et al., 2008). Beliefs regarding what constitutes normal, desirable behaviour are informed by dominant heterosexist penile-vaginal norms and traditional gendered sexual scripts. Accepted norms are that men possess the rights to unrestricted access to their female partners' bodies (Hoffman et al., 2006). Writing about the South African context, Eaton et al. (2003) suggested that South African men claim 'ownership' of their sexual partners, and thus feel justified in forcing their female partners into having sex. "This behaviour is supported by a social norm that a man has a right to sexual intercourse within a romantic relationship, and that he therefore has the right to use force if necessary to obtain it" (Eaton et al., 2003: 161). Women often have little control over who has sexual access to their bodies, and under what circumstances (Kaufman, 2008).

### **Gendered power inequities and HIV risk**

The gender-based inequities and disparities between men and women, determined by traditional gender roles facilitate women's exposure to HIV and STI risk, by hampering women's agency to negotiate safer sex (Connell, 1987; Dworkin et al., 2007; Wingood & DiClemente, 2000). Male dominance and control of heterosexual sexual interactions, combined with women's lack of power (structural and interpersonal) has shown to be linked to women's inability to control their own bodies and avoid condomless sex (Pulerwitz et al., 2000; Rosenthal & Levy, 2010). The culturally-determined expectation that women should defer to a male partner's needs in a sexual relationship, placing the primacy of male pleasure at the centre of sexual scenarios at the expense of safer sex measures means that in most cases women leave condom initiation and use to men, and also accept that men can have multiple sexual partners (Dworkin et al., 2007; Norris et al., 2004).

There is a correlation between the degree to which a woman has sexual agency and her vulnerability to HIV infection. In situations where women fear violence or negative relationship outcomes, they are even less likely to successfully negotiate condom use. Research has shown that African women with the least power in their dyadic relationships are at the highest risk for HIV infection, and are the least likely to be able to effectively negotiate condom use and other safer sex practices (Kaufman et al., 2008). Women in Africa tend to lack power and control in their sexual relationships due to the resilience of entrenched traditional gender roles, making it difficult for women to negotiate safer sex (Kaufman et al., 2008). Evidence of this gender imbalance, lack of control in the sexual arena and its effects were evident in Patience's narrative in Chapter 2.

## **Gendered power and PAI**

These findings are some of the first to describe gendered power dynamics and sexual scripting for heterosexual PAI practice in sub-Saharan Africa. Writing in the context of the United States, Billy et al. (2009) found that whether or not a heterosexual couple engage in PAI is strongly influenced by the gender role ideology of the male partner, with more traditional gender role ideologies associated with higher probability of engaging in PAI. In the context of sub-Saharan Africa, where gender roles tend to be patriarchal and male dominant, this is likely to be similar. The findings presented in this research are amongst the first to lend evidence to this supposition in terms of causal factors for engaging in heterosexual PAI. The influence of gendered power dynamics, sexual agency and sexual scripting on sexual decision-making, are evident in the case study in Chapter 2, the young people's narratives in Chapter 5, and in the findings in Chapter 8.

### *The influence of sexual scripting on sexual decision-making*

As outlined in Chapter 3, sexual scripting theory suggests that sexual behaviour is influenced by what may be termed scripts, frames or culturally informed guidelines about how to act and react in certain situations. Making use of sexual scripting theories is useful in thinking through the processes that lead to a particular sexual behaviour outcome. "Sexual scripts are vital for an analysis of safer sex practices since communication, decision-making, and the ability to shape one's own and another's actions are central to sexual negotiations" (Dworkin, 2007: 270). I have adopted aspects of the sexual scripting theory as a theoretical framework with which to interpret and analyse these findings, and in doing so describe the social and dyadic contexts in which sexual behaviour takes place, and more specifically how women in sub-Saharan Africa negotiate heterosexual sexual norms (Tanner et al., 2009).

There is a need to develop an understanding of the specific sexual scripts for heterosexual PAI, in light of the fact that they are likely to differ substantially from sexual scripts for PVI. "The phenomenology of HAI (heterosexual anal intercourse)... is distinct from PVI and includes risk behaviours and complexities that have not been identified to date" (Roye et al., 2013: 721). In addition, sexual decision-making and risk-taking for PAI differs from that of PVI, as demonstrated by the findings from this research. For this reason, I have attempted to

develop models with which to describe and explain the multi-level factors and influences that may result in an event of heterosexual PAI in sub-Saharan Africa, and possible transmission of HIV.

In this section I discuss how interpretations of the sexual scripting theory have been used to explain situations in which there are 'disjunctures' between scripts, and how these disjunctures, or conflicting motivational cues, are negotiated by the individual sexual actor. I then follow this with a discussion of how the idea of sexual script disjunctures specifically applies to heterosexual PAI behaviour. The reason that I found the application of theories relating to script disjunctures useful in interpreting the findings from this research is that there appeared to be a disjuncture between the discourse of cultural sexual norms casting heterosexual PAI as a disgusting, homosexual, sinful behaviour on the one hand, and on the other hand culture-level sexual scripts and motivational cues for engaging in PAI. In this section I attempt to map out the processes of the individual social actor negotiating these conflicting frames or scripts, and the eventual outcome of engaging in heterosexual PAI.

### *The social actor's interaction with multiple scripts*

Any one individual social actor may hold several scripts, or 'behavioural templates', and selects from a repertoire of templates in order to interpret and respond to different situations (Morrison et al., 2014; Turner 1986). Using the idea of social roles and accompanying norms of conduct in explanation of how broader social systems influence an individual's behaviour is useful, but it is simplistic to assume that society simply supplies roles to the social actor to blindly act out (Ewart, 1991). The individual social actor does not follow scripts blindly, but is an active agent, processing, interpreting, adapting and negotiating scripts in an intrapsychic dynamic process, even if this interaction is subconscious (Cohan, 2009; Ewart, 1991; Suvivuo et al.; 2010).

Furthermore, scripts are not static entities, but shift and change, and as social norms shift, people move depart from traditional dominant scripts (Dworkin et al., 2007). The scripting theory makes an allowance for "variation and modification within the scripts that pre-dominate in each culture, while recognizing that even in such variation the presence of the dominant norms and scripts are recognized and accommodated" (Matcika-Tyndale et al., 2005: 28). In the sexual realm, sexual norms and sexual scripts are constantly shifting and

changing. Within sexual interactions, there are “interactional complexities of HIV decision-making during sex” and it is necessary to “situate sexual actors’ risky choices in complex interactional contexts of shifting meanings and decision dilemmas” (Fontdevila, 2009: 242).

### **Interacting with multi-level scripts**

Scripts function at different levels, and it is important to delineate between culture-level gender scripts for heterosexual relationships, which are slow changing, with more flexible and fluid scripts that function at interpersonal and intrapersonal levels (Dworkin, 2007; Masters et al., 2013). Although some culture-level scripts, such as gendered power scripts, may be homogenous to some extent, there is heterogeneity in the way in which these scripts get incorporated into people’s individual-level, intrapsychic scripts, with individuals re-interpreting and exception finding within the scripts (Masters et al., 2013).

In terms of sexual scripting, individual social actors actively construct different types of sexual scripts at different levels simultaneously, and depending on the contexts they are in, they can move between and take on different sexual scripts (Suvivuo et al., 2010). Individual sexual actors have a reflexive capacity to switch between scripts, or ‘frames’, during sexual encounters (Fontdevila, 2009). This can be understood as scripts informing sexual actors how they should respond in a sexual interaction, how to negotiate gendered power dynamics, what roles and persona they should adopt or not, manifesting in the decisions about what sexual positions to engage in, who initiates them, and what safer sex measures should be taken or not, and how.

The way in which sexual scripts may manifest in a sexual interaction might be as suggested in the following example: culture-level scripts, gendered power and sexual agency inform a woman how she should, and can, appropriately react and respond to her male partner’s request for PAI. Culture-level and interpersonal-level scripts, combined with gendered power dynamics inform and influence the male partner’s desire to have PAI, how he requests and initiates it, and how he expects her to react to the demand. His desire may also be influenced by physiological factors and sexual arousal. Interpersonal/dyadic level scripts will inform the way in which the two individuals negotiate the interaction, their physical bodies and their emotional response and interpretation of the situation. Scripts operating on multiple levels will also influence what behavioural risks are taken.

### *Script disjunctures*

There are situations in which individuals are often subject to multiple contradictory or competing 'frames', scripts or behavioural motivations. Scripts functioning at the socio-cultural level, interpersonal level and intrapersonal levels interact and merge, and their relative sway or influence on an individual's behaviour will differ according to specific circumstances and settings. In a given sexual situation there may be disjunctures and discontinuity between sexual scripts at different levels, for example interpersonal/dyadic level scripts and intrapsychic/intrapersonal scripts may contradict dominant culture-level scripts, creating situations in which individuals need to play an active role in negotiating the disjunctures between their individual-level and culture-level scripts (Masters et al., 2013). The two (or more) individual sexual agents in a sexual encounter have to interactively negotiate the sexual situation, each drawing on a repertoire of available, and often inconsistent, sexual scripts and motivational cues. Multiple frames or scripts might apply simultaneously in any interpersonal interaction, and individual actors must work to maintain the dominance of a particular frame, and conflict may arise over which frame should govern a particular situation (Goffman, 1974; Harding, 2007).

A handful of studies have demonstrated the complexity of sexual scripts and sexual norms experienced by young people in Africa, who at times have to negotiate contexts undergoing transformation with conflicting scripts. Sexual script disjunctures experienced by young people in Africa are a result of contradictory prescriptive and permissive sexual norms, informed by traditional cultural expectations as well as development processes and cultural shifts (McIlwaine & Datta, 2004; Wight et al., 2006).

#### **Script disjunctures for heterosexual PAI**

Findings point towards disjunctures in the contradictory sexual scripting of heterosexual PAI: on the one hand labelling heterosexual PAI as abnormal, disgusting and inappropriate, and on the other hand motivational cues for engaging in it informed by gendered power dynamics framing women's responsibility to satisfy a male partner's sexual needs, combined with physiological sexual pleasure derived from the behaviour. In the context of dominant sexual scripts framed by penile-vaginal heteronormative assumptions, combined with anal sex taboos and social stigmatisation, engaging in heterosexual PAI marks a departure from traditional and normative sexual scripts (Morrison et al., 2014).

In situations where an individual is faced with discrepant and conflicting personal, dyadic and cultural scripts, there may be behavioural risk consequences of their confrontation and negotiation of these conflicting cues, particularly where uncertainty exists about what behaviour is appropriate (Suvivuo et al., 2010). 'Script disjunctures' or conflicting motivational cues mean that the way in which heterosexual men and women navigate sexual decision-making and safe sex negotiations relating to PAI are complex, and potentially have a negative impact on HIV risk. The health risks associated with PAI are exacerbated by the taboos around it, silencing effective sexual communication and safe sex negotiation around heterosexual PAI, and limiting individuals' ability to make informed and empowered decisions.

Applying these concepts to the example of a situation in which a woman in sub-Saharan Africa is under pressure to have heterosexual PAI with a male partner, she may be subject to competing scripts. Culture-level scripts framing PAI socially undesirable and unacceptable behaviour, while simultaneously framing her responsibility as the female in the dyadic encounter to ensure her male partner's sexual satisfaction. Social norms portraying PAI as a sinful, shameful, disgusting behaviour are in conflict with or at a disjuncture with dyadic interpersonal level gendered scripts pressuring women into pleasing their male partners, or the range of other motivating factors for PAI. This may be compounded by various other conflicting motivational cues for and against engaging in PAI, such as practical reasons of menstruation, virginity maintenance etc. Examples such as these are evident in the data showing that despite the religious and legal proscription of PAI as a sinful, disgusting and criminalised act in Kenya, Tanzania, Zimbabwe and Uganda, both heterosexual and homosexual men and women continue to engage in this sexual behaviour.

### **Differences in sexual scripting for PVI and PAI**

Much of the sexual scripting for heterosexual PAI and PVI share similarities in terms of the gendered power dynamics that govern dyadic interactions between men and women in sub-Saharan Africa, however there are important distinctions between sexual scripting for PAI and for PVI. Sexual interactions involving PAI have the added complexity of taboo and social stigmatisation, combined with illegality of the behaviour in some countries, meaning that scripting for PAI is influenced by the social stigmatisation and silences around the practice. Importantly, this means that HIV interventions designed to prevent the transmission of HIV

through PVI may not work for PAI, highlighting the need to understand the unique sexual scripts for heterosexual PAI in sub-Saharan Africa.

## **Theoretical Models**

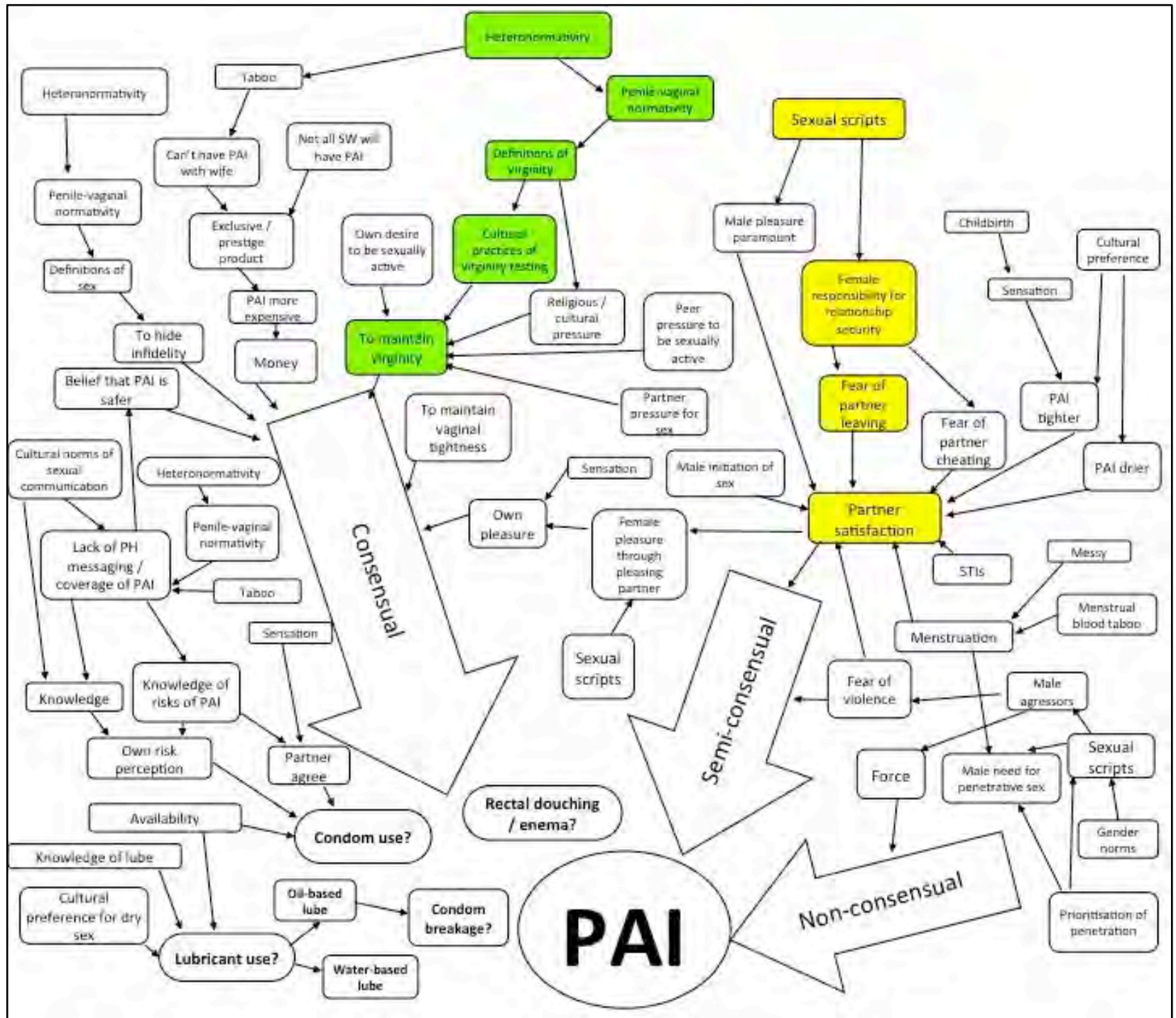
In this section I present the series of theoretical models that I developed as part of the analysis and interpretation of the research findings presented in this thesis. In order to meet the research objective of describing the knowledge, perceptions, attitudes, practices and experiences that surround heterosexual penile-anal intercourse in the context of sub-Saharan Africa, I used the data to explain the reasons why people engage in heterosexual PAI, what factors motivate their sexual decision-making and dyadic negotiations, and what causes the eventual engagement in PAI. In addition I used the data to describe the ways in which these are influenced by the socio-cultural contexts in which people are situated. With these models I attempted to create visual representations of the theoretical synthesis outlined above, describing the processes of sexual decision-making and risk-taking that result in the eventual act of heterosexual penile-anal intercourse in Africa, and the multi-level layers of factors that influence them.

Models such as these are useful for understanding the ways in which individual sexual decision-making and actual sexual behaviour are influenced by the interaction between multi-level factors and contexts. These theoretical models show different aspects of the factors that influence PAI in sub-Saharan Africa, enabling us to understand the processes that lead to, and influence the eventuality of PAI and HIV transmission through PAI. By understanding the processes that lead to PAI, and whether it is practiced safely or not, we can know how best to design and implement interventions that reduce the risk of HIV transmission, taking into account that condomless PAI is the highest risk sex for HIV transmission, and this risk can be exacerbated by factors such as rectal cleansing, lack of lubrication, and co-occurring anal STIs.

### *Theoretical Model 1*

With Model 1 I attempt to illustrate the sequence of causal factors, conditions and influencing motivations that result in heterosexual PAI. I have taken the occurrence of heterosexual PAI, and associated practices such as condom use, lubricant use and rectal cleansing, and have attempted to create a causal-chain model to explain the many diverse factors that led to that occurrence. This causal-chain model may seem overwhelming and messy, but demonstrates that factors are interlinked and multi-level, and shows that sexual behaviour is complex and influenced by a wide range of situations and motivational cues.

Figure 3: Theoretical Model 1



To demonstrate the causal chain element, in the diagram above I have highlighted in yellow the causal chain the example of a woman engaging in PAI for partner satisfaction. Why does she engage in PAI for partner satisfaction? Because she is concerned that if she fails to satisfy him, he will leave her. Why does she have this concern? Because she has a perceived obligation to maintain the relationship security. Where does this perception come from? It is informed by socio-cultural sexual scripts and gender roles.

In green I have highlighted another example: this time a woman engaging in PAI to maintain her virginity. Tracing the causal chain backwards we see that this decision was influenced by the existence of cultural practices of virginity testing in her community, which is in turn influenced by the way in which virginity is defined, which is in turn influenced by penile-vaginal normativity, in turn influenced by heteronormative framing.

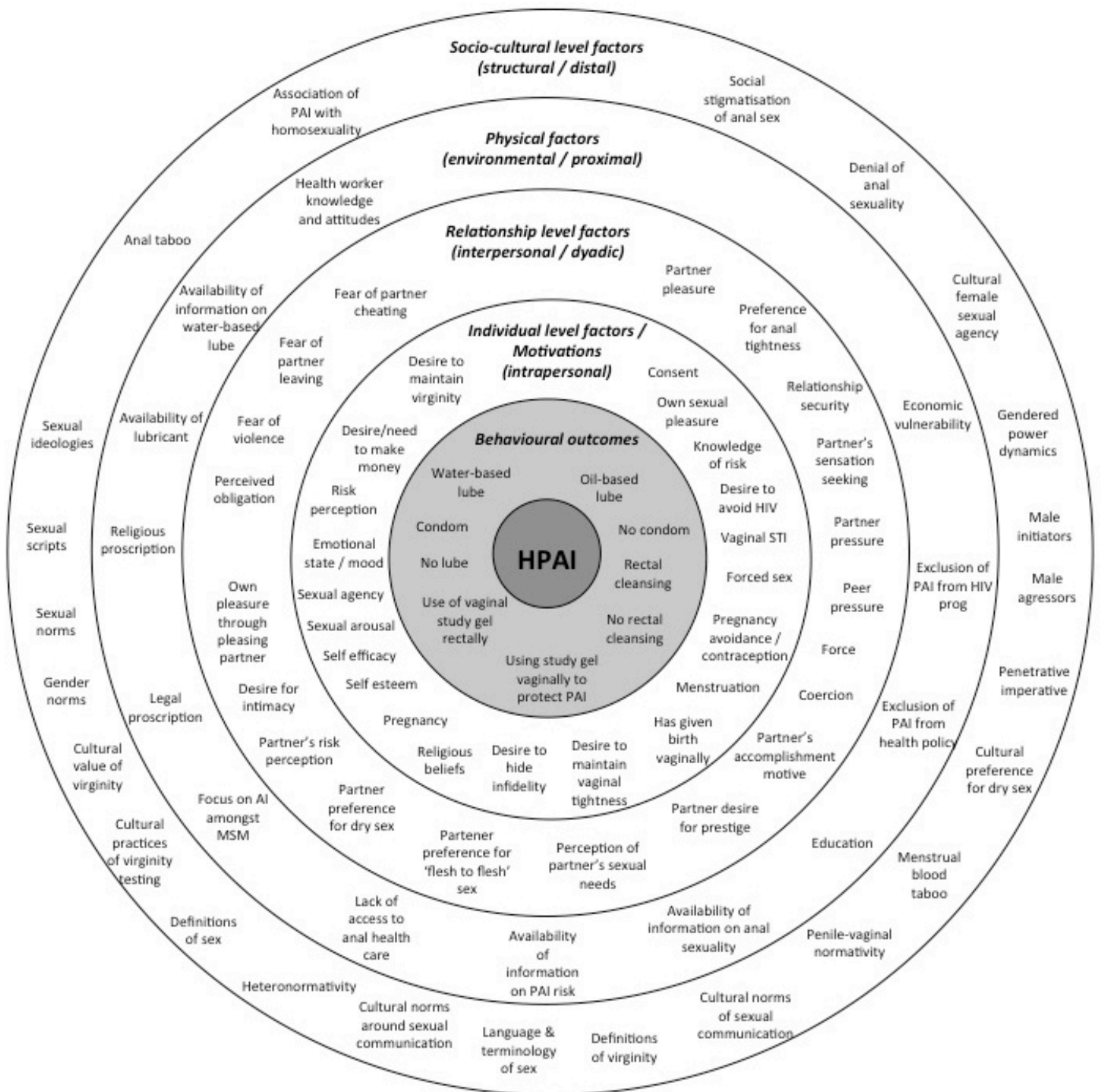
### *Theoretical Model 2*

The development process of Model 2 was an attempt to organise the complex influencing factors into the different layers of influence that impact on an individual's behavioural outcomes and HIV risks, as have been described above and in the literature, into the following levels:

- 1) Individual, intrapersonal, intrapsychic level factors or motivational cues;
- 2) Interpersonal, relationship, dyadic-level factors;
- 3) Physical, environmental, proximal-level factors;
- 4) Socio-cultural, structural, distal-level factors.

While these categories or layers are not perfect, they map out the different levels and different types of influencing factors that have emerged in the findings and in the literature.

Figure 4: Theoretical Model 2



### *Theoretical Model 3*

Theoretical Model 3 is an attempt to expand upon the concepts illustrated in Models 1 and 2 for the specific example of a young woman in sub-Saharan Africa who engages in PAI to maintain her virginity. The way this model differs from the causal chain highlighted in Model 1, is that it illustrates the processes of negotiating conflicting scripts and cues that this young woman is subject to, one the one hand the pressure and desire to have sex with a young man, while she endeavours to maintain her virginity at the same time.

This young woman is under pressure to have 'sex' with a young man she is attracted to. Gendered culture-level scripts inform her that her role as a woman is to secure and maintain a heterosexual dyadic relationship, and in order to do so she must provide for the sexual satisfaction of her male partner. In addition it is an affirmation of her femininity and womanhood to be sexually desired by a male, and as there is competition between peers, she is concerned that if she does not have sex with him he may seek it elsewhere. The young man expresses a desire to have 'penetrative sex' with her, his desire and demands shaped by the socially-constructed prioritisation of penetration, driven by the penile-vaginal penetrative assumption that accords primacy to penile penetrative sex as being 'real' sex. Additionally his sexual desire, demand for and initiation of sex are informed by socio-cultural norms about masculinity and gendered power.

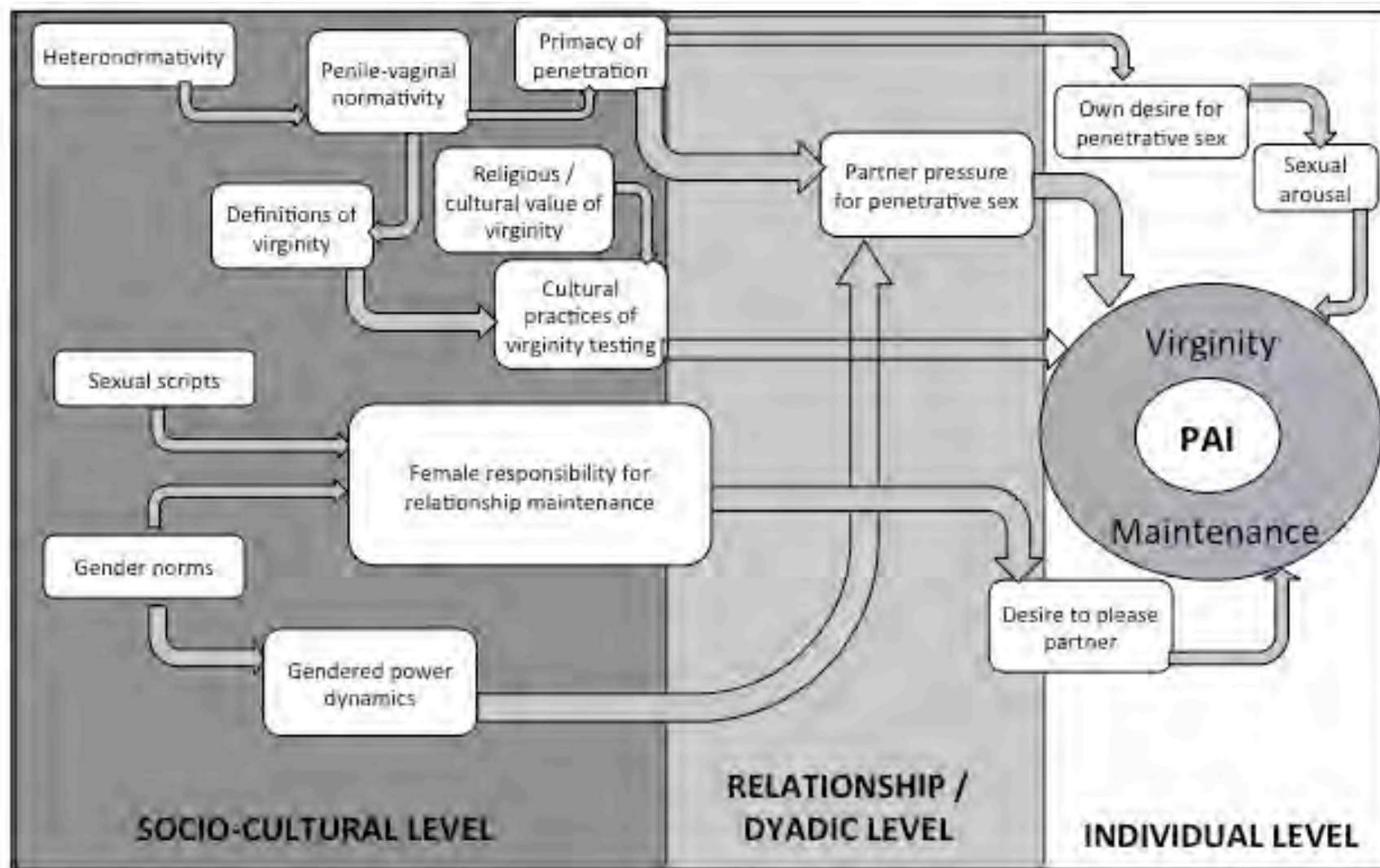
In addition to the pressure she feels to heed to his demands, and fear that he will lose interest in her if she denies him (interpersonal level), the young woman herself feels sexually aroused when she is with him (individual-level). Influenced by culture-level gendered scripting framing the roles and responsibilities of women in the heterosexual dyadic context, she also feels that PAI provides a way of giving her male partner what he desires and needs, as well as increasing their intimacy and maintaining their relationship. Her desire to please her male partner is informed, without her being conscious of these, by gender norms and sexual scripts that frame her interpretation and reaction to certain situations.

In conflict with the sexual scripts that provide motivational cues for the young woman to have sex with the young man as detailed above, are scripts suggesting that a young woman should maintain her sexual purity, innocence and chastity (culture-level). The young woman comes from a community in which great value is attached to the maintenance of 'virginity' until marriage. Her decision-making process is shaped by the fact that she does not wish to

damage her hymen so that she might fail the virginity test that she will have to undergo to prove that she is eligible for marriage. The fact that her virginity will be ascertained by the integrity of her hymen is due to the cultural level framing and definition of virginity that prevails in her community, itself based on heteronormative penile-vaginal penetrative assumptions. According to the heteronormative penile-vaginal assumption PAI does not count as a form of 'sex' that would jeopardise the status of being a 'virgin'.

In this situation the young woman has to negotiate these conflicting multi-level scripts and motivational cues for and against having 'sex'. All these factors combine and influence the resulting outcome in which the young woman engages in PAI to satisfy her partner's demands and fulfil her perceived responsibilities as a female, and at the same time maintain her virginity.

Figure 5: Theoretical Model 3

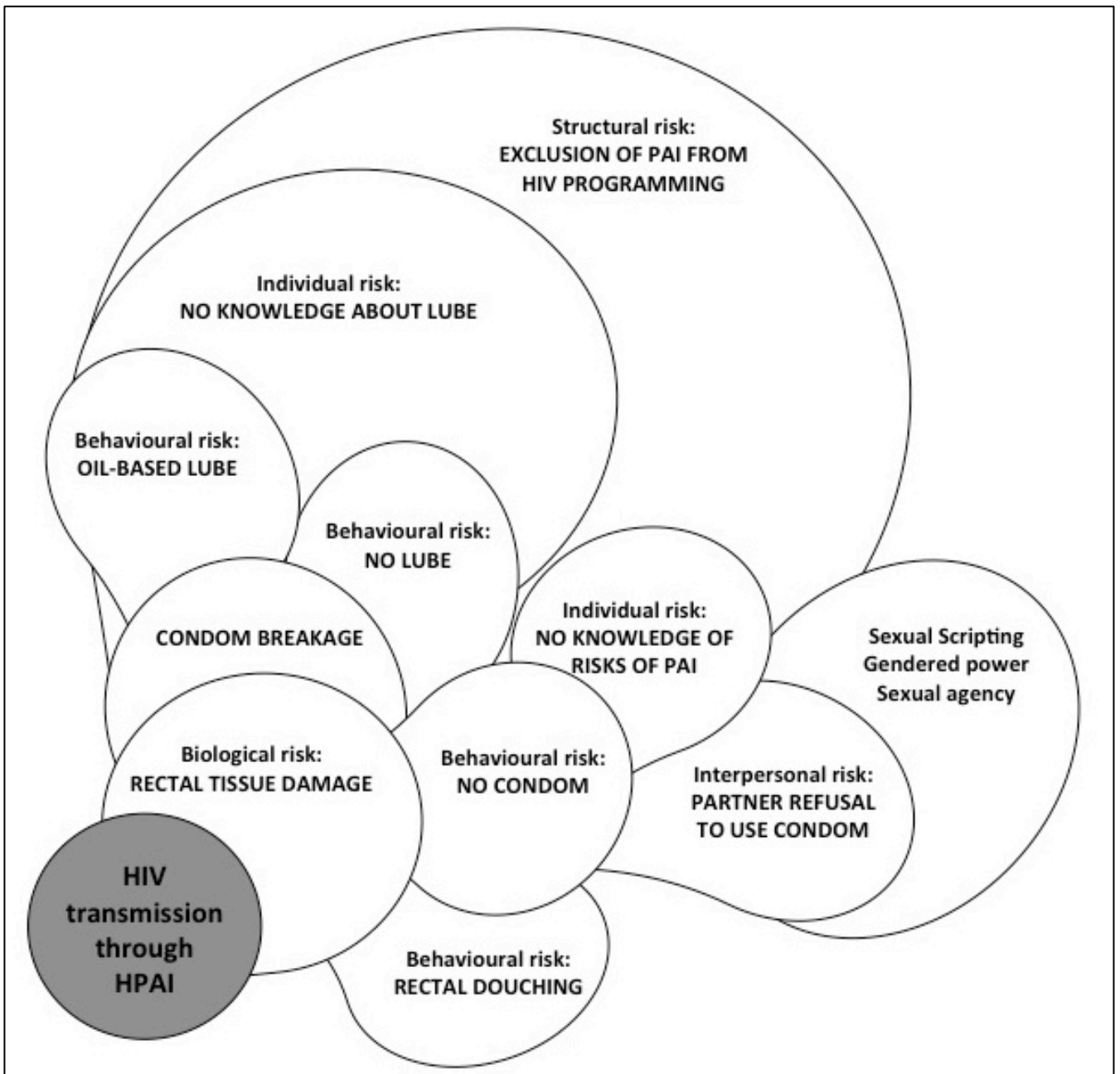


Model 3 has its limitations, and is a simplified visual representation of the multi-level factors that influence an individual's sexual decision-making and eventual sexual behaviour. Model 3 is a more focused version of the more complex Models 1 and 2 (Figures 3 and 4), addressing just one causal chain. It is important to note is that the decision-making process is not necessarily linear; Model 3 does not mean that each factor is clearly caused by another, but rather shows the influences on that factor.

#### *Theoretical Model 4*

The development of theoretical Model 4 was an attempt to look at the behavioural factors that influence HIV transmission risks; looking specifically at the occurrence of HIV transmission through heterosexual PAI, and illustrating the specific influences on behavioural practices relating to PAI that impact on HIV transmission. Practices directly determining levels of risk for HIV and STI transmission through PAI include 1) whether or not a condom is used, and if so, if it is used correctly; 2) whether or not any lubricating substance is used, and if so, what kind of lubricant; 3) whether or not the receptive partner has engaged in any pre-coital preparatory practices such as an enema or rectal cleansing, and if so, if any products have been used for this cleansing, and what type of products; 4) whether either partner had any STIs; 5) additionally factors such as the degree to which the receptive partner consented to the penetration of their anus. These behavioural and situational factors, which are the result of various levels of decision-making and negotiation, determine the likelihood of HIV being transmitted between partners during heterosexual PAI.

Figure 6: Theoretical Model 4



#### Applying the theoretical models

Models 3 and 4 demonstrate the way in which the larger more complex models in can be pared down and applied in different ways to explicate specific behavioural practices or situations. Models 3 and 4 combine the process or mechanism illustrated in Model 1 with the various influencing levels of Model 2, showing the interplay between the two.

These kinds of theoretical models illustrated in Figures 3 to 6 are useful in attempting to understand the influences on sexual decision-making and sexual risk behaviour. These models enable us to see, in a visual representation, that heterosexual PAI, like any other sexual behaviour, is influenced by a range of factors at different levels: individual/personal and intrapsychic factors; dyadic/relationship interpersonal factors and gendered power dynamics; situational, environmental and material factors; and socio-cultural and structural factors. By exploring the relationship between these factors we can assess how contextual factors and risk environments interact in specific context-dependent ways, with social, dyadic and personal factors to impact on sexual decision-making and HIV risk avoidance behaviour. Specific patterns of multi-level factor interactions create a specific set of conditions that result in the behavioural outcome of PAI. The interaction of these multi-layered factors and the way they influence individual behaviour is unique in each specific socio-cultural setting, subject to distinctive complexities and localised interpretation, and as such cannot be generalised, although some common patterns can be found.

## CONCLUSIONS AND RECOMMENDATIONS

Heterosexual PAI is practiced in sub-Saharan Africa for a variety of reasons, some of which have critical implications for HIV transmission. Accurate data on the prevalence of this sexual behaviour are hard to attain, partly due to deeply entrenched taboos relating to PAI affecting people's ability to communicate effectively about this specific sexual behaviour, and resulting in social desirability bias in reporting of the behaviour. Combined with these taboos are complexities in language and terminology pertaining to PAI, which also impact on the reporting of this sexual behaviour in the research and clinical settings. The combination of social stigmatisation, social desirability bias, and lack of clear unambiguous terminology for anal sex in many languages results in misreporting and flawed data.

The way in which multi-level contextual factors interact to influence heterosexual PAI are different to their interaction for PVI, and need to be understood and addressed in their own right, especially due to the high physiological risks of HIV and STI transmission inherent in PAI. By conducting research such as that presented in this thesis, we can begin to recognise the fluidity, complexity and distinctiveness of sexual scripting for PAI, as well as the multi-level factors influencing the practice of PAI and associated behaviours, and the interplay

between factors. By working towards an understanding of the social, cultural, dyadic, relationship level contexts of specific behaviours, we can gain insight into which factors increase an individual's risk of being exposed to HIV, and consequently design and implement more relevant, appropriate and effective HIV interventions, enabling individuals to adopt risk mitigating behaviours. By breaking down the specific components that make up sexual scripting for heterosexual PAI in sub-Saharan Africa, sexual risk-taking and subsequent HIV transmission through PAI can be more effectively evaluated and understood. With a better understanding of the way in which individuals and communities perceive, construct and make behavioural choices regarding heterosexual PAI and HIV risk, HIV interventions can be more appropriately implemented (Dworkin, 2007). Without this type of in-depth understanding of heterosexual PAI in sub-Saharan Africa as a behavioural 'phenomenon', HIV prevention interventions may risk being misguided, inappropriate, and limited by heteronormative and penile-vaginal assumptions.

Due to penile-vaginal heteronormative assumptions that have guided research focus and health programming, heterosexual PAI has largely been excluded from the HIV prevention agenda. These findings highlight the need for both clinical practitioners and researchers, particularly those in the field of sexual behaviour research, to be aware of the assumptions inherent in terms for sex acts, and the importance of paying close attention to the nuances in interpretation and meaning of sexual behaviour terms. Data collection and sexual health programming needs to be more comprehensive, and changes need to be made in order to ensure that all types of 'sex', especially those types of sex that have HIV transmission risks, are addressed in interventions for the general population. In other words, PAI should not be limited to service provision for MSM. The 'mainstreaming' of information and service provision around PAI, especially to heterosexuals, has been impeded by deeply entrenched taboos and social stigmatisation of anal sexuality and anal sex behaviour.

One way to address some of the taboos and social stigmatisation of PAI is to acknowledge and recognise heterosexual PAI practice, treating it as any other type of sexual behaviour, which might be practiced by men and women regardless of their sexual orientation. One important component of tackling this stigma is the training and sensitisation of health care providers. In order to do this, penile-anal intercourse, practices associated with PAI, and anal STIs, need to be included in training curricula. Additionally, the inclusion of PAI into data collection instruments and risk assessment stationary for men and women is another important component. Men and women, regardless of their sexual identity or sexual

orientation, should routinely be asked questions relating to their engagement in both PVI and PAI.

However, in making these recommendations we acknowledge that several barriers to this integration and mainstreaming of PAI into health service provision exist. Legal prohibition of PAI in many African countries, combined with cultural and religious proscription, compounded by taboos, social stigmatisation and denial of the practice make these challenging.

In order to effectively address HIV transmission in Africa we need to consider the potentially substantial role that heterosexual PAI, thus far neglected by HIV interventions and research, could be playing in HIV transmission on the continent. The first step is working towards an understanding of the practice of heterosexual PAI and associated behaviours, as well as the socio-cultural contexts in which they occur. With this understanding, we can inform the development of appropriate, relevant and effective HIV interventions. The findings presented in this thesis make a unique contribution to the field, in being the first in-depth description and analysis of heterosexual PAI behaviour and related practices in sub-Saharan Africa, examining various aspects of the practice of this high-risk sexual behaviour, the social contexts in which it occurs, and the challenges in communicating about and conducting research on it.

# APPENDICES

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## Appendix 1: Note on language & terminology used in this thesis

I make a note here regarding my choice of terminology for the purposes of this thesis. I have chosen to use the term '**heterosexual penile-anal intercourse**'. Firstly, the reason I have chosen not to use the term 'anal sex', is that it is not sufficiently explicit in defining which body parts are being used during the sex act, and the term 'anal sex' could be interpreted as being oro-anal stimulation, digital-anal penetration, or the penetration or stimulation of the anus with sex toys. The term penile-anal intercourse (abbreviated to the acronym PAI) again could be more specific, but I elected not to use the term 'penile-anal penetrative intercourse', as I decided this was too complicated, and that 'penile-anal intercourse' was sufficient in its description.

On the use of the word '**heterosexual**', I note that this word is problematic and value-laden, and not necessarily accurate, as it references a sexual orientation, which is irrelevant in the simple description of the sexual act of penile-anal intercourse. However it was necessary for the purposes of this thesis' focus to differentiate between penile-anal intercourse between two men, and PAI between a woman and a man. For this reason I use the word heterosexual. I use it with caution while recognising the limitations in its use, as the man and woman involved in the 'heterosexual PAI' may not identify as having a heterosexual sexual orientation.

Additionally, although the terms '**culture**' and '**cultural**' are used in this thesis, I recognise that simplistic use of these terms is problematic and they should also be used with caution (Gillespie et al., 2012). As Jahoda (2012) points out, "culture" is not a thing, a static entity, but should rather be seen as a social construct that is used to refer to a vastly complex set of phenomena (Jahoda, 2012: 300).

Lastly, in line with recent changes in terminology formally recognised by entities such as the U.S. government body, the Center for Disease Control, I have chosen to use the term '**condomless sex**' instead of the more commonly used term '**unprotected sex**' in this thesis. The rationale for replacing the term 'unprotected' with 'condomless' to refer to sex without a condom, is that there have been various advances in biomedical prevention technologies, for example PrEP (pre-exposure prophylaxis), treatment as prevention (antiretroviral therapy), viral suppression, and of course microbicides. The term 'unprotected sex' appears in Chapter 6, for the reason that this paper was published before I was made aware of this change in terminology.

## Appendix 2: Overview of My Role in Each Study

**Table 11: Overall roles & responsibilities in the studies presented in this thesis**

	<b>East Africa study</b>	<b>VOICE-D</b>	<b>Masiphumelele study</b>
<b>Tool design by</b>	ZD & research team	ZD & research team	ZD
<b>Data collection by</b>	Site research teams	Site research teams (ZD an observer at initial interviews)	ZD
<b>Transcription by</b>	N/A	Hired transcribers	ZD
<b>Translation by</b>	Site research staff	Hired translators	N/A
<b>Coding by</b>	ZD	ZD & 3 others	ZD
<b>Overall analysis</b>	ZD in consultation with research team	ZD in consultation with research team	ZD

### Chapter 5 (Masiphumelele study)

The data presented in Chapter 5 came from a research project that I designed, conducted, and funded, on my own. I designed the study protocol and data collection tools, which were approved by the University of Cape Town's Human Research Ethics Committee in September 2013. I recruited participants through my connection with the Desmond Tutu HIV Foundation. I conducted all the FGDs and interviews for this study. For some of the FGDs I had an assistant. I transcribed all the audio files, and was the sole data analyst. My supervisor provided support and comment during this process, and the ensuing write up.

### Chapter 6 (East Africa study)

The data presented in Chapter 6 was collected in 2010 as part of evaluation activities for an HIV programme in East Africa. I was contracted as a consultant to assist with the project. I designed the data collection tools, and then local interviewing teams conducted the IDIs and FGDs. Audio files were translated, and then I did the analysis of the English transcripts. I had limited time for the initial analysis as the findings were to be presented at a meeting in Tanzania in May 2010. I did preliminary coding of the transcripts and some primary analysis, with input from the local research teams to ensure my interpretation of the data was congruent with theirs. I later had the chance to conduct further analysis of the transcripts, from which I developed the manuscript presented in Chapter 6.

## Chapters 7, 8 and 9 (VOICE-D study)

I was initially contacted by the protocol team for VOICE-D, I had been referred to them due to research focus on heterosexual anal sex in Africa, as this was one of the aspects they wanted to explore in VOICE-D. From the outset I stated that my involvement in the project was contingent being able to use some of the data for my PhD, and the possibility that I could be first author on at least one manuscript on PAI coming out of the project. These terms were agreed upon by the protocol team. I was contracted to the Microbicide Trial Network (via DTHF) to work as a socio-behavioural consultant on this project. I was part of the team that designed the data collection tools; my focus was on the anal sex section, although I contributed to the adherence sections as well. Alongside staff from the project coordination group in the USA, I conducted the training of the site interviewers and research teams. The training was on qualitative research skills, with an emphasis on skills and techniques for interviewing people on sensitive topics. The training also included a dedicated session on sensitising research staff on heterosexual anal sex, equipping them with the knowledge and skills to discuss anal sex, and dispelling misconceptions, tackling some of the taboos and addressing judgemental attitudes amongst staff towards PAI, so that they would be able to conduct interviews in a non-judgemental manner. I visited each of the research sites – two in Durban, one in Kampala, and one in Harare – to assist with the preparation for the data collection. I was present at the first few IDIs at each site, to advise and oversee the interview teams, and ensure consistency across the sites.

After data had been collected in Stage 1 of VOICE-D, I coordinated the transcription and translation process of all the interview audio recordings. I was part of the analysis team that developed the codebook, and coded the 88 transcripts. From this data I developed three manuscripts on which I am first author. I invited the protocol chairs, and other research team members who had been involved in data analysis, to be co-authors. Additionally on the manuscript dealing with language and terminology, I invited the site interviewers to be co-authors, in light that they would be able to provide insight into the exact translations and cultural connect of the language and terms.

### Appendix 3:

**Table 12: Terminology in socio-behavioural studies on sexual behaviour (Chapter 4)**

	Author	Date	Country	Type of study	Research focus	Terms used	'Sex' terms defined / assumed
1	Bankole et al.	2007	Sub-Saharan Africa	Survey	Young adolescent sexual behaviour & knowledge	Sexual intercourse, sex, first sex,	Survey question: "Have you ever heard of sexual intercourse? By this I mean a penis in a vagina" (p31) – PAI not mentioned
2	Beguy et al.	2009	Kenya	Analysis of survey data	Inconsistent adolescent sexual behaviour reporting	Virgin, virginity, sexual debut, sex, first sex,	Assumed
3	Brewer et al.	2007	Sub-Saharan Africa	Analysis of survey data	Virginity & circumcision	Virgin, sexual intercourse, virginity, vaginal sex, anal sex	"Sexual intercourse" not clarified but PAI mentioned separately
4	Cain et al.	2011	South Africa	Ethnographic research	Xhosa language and sexual communication	Sexual intercourse, sex, the coital act,	Assumed
5	Chapman	2010	Sub-Saharan Africa	Analysis of survey data	Adolescent sexual behaviour	First sex, sexual debut, had sex	Assumed, PAI mentioned separately
6	Cherie & Berhane	2012	Ethiopia	Survey	Youth oral and anal sex practices	Anal sex, virginity, vaginal sex, anal intercourse	Defined
7	Curtis & Sutherland	2004	10 countries in Sub-Saharan Africa, Latin America & Caribbean	Analysis of survey data	Measuring sexual behaviour in surveys	Premarital sex, sex, had sex, first sex	Assumed
8	Delva et al.	2013	South Africa	Survey	Coital frequency & condom use	Sex, coital, sleep with, intercourse, sex acts, sexual intercourse	Assumed
9	Dixon-Mueller	2008	64 countries	Analysis of survey data	Adolescent sexual transitions	Sexual intercourse, sexual initiation, first intercourse, sex, heterosexual vaginal intercourse	PAI mentioned in footnotes but not included in definitions of sex
10	Fatusi & Blum	2008	Nigeria	Analysis of survey data	Adolescent sexual initiation	Sexual debut, sexually experienced, sexual initiation	Assumed
11	Fatusi & Wang	2009	Nigeria	Analysis of survey data	Male adolescent sexual debut	Sexual debut, first sex, had sex, sexual act, sex, sexual intercourse	Assumed
12	Hallet et al.	2007	Zimbabwe	Survey	First sex & HIV	First sex, sex, having sex, sexual debut, sexual intercourse, premarital sex	Assumed

13	Harrison et al.	2008	South Africa	Survey	Adolescent sexual partnerships	Sexual intercourse, intercourse, sexually active, sexual relations, sexual contact	Assumed
14	Hewett et al.	2004	Kenya	Survey	Adolescent girls' sexual behaviour reporting	Sex, had sex, premarital sex, sexual intercourse	Assumed
15	Izugbara	2008	Nigeria	Ethnographic narrative research	Masculinity scripts & abstinence beliefs	Abstinence, sexual activity, sex	Assumed
16	Kabiru	2007	Sub-Saharan Africa	Survey	Adolescent sexual abstinence	Sex, sexual intercourse, sexually experienced	Assumed
17	Kawai et al.	2008	Tanzania	Survey	Adolescent sexual initiation	Sexual initiation, vaginal sexual intercourse, anal sex, anal sexual intercourse, vaginal sex	Defined
18	Kibombo et al.	2007	Uganda	Analysis of survey data	Adolescent perceptions of HIV risk	Sex, sexual intercourse, had sex, intercourse	Assumed
19	Leclerc-Madlala	2001	South Africa	Longitudinal ethnographic study	Virginity and HIV	Virgin, virginity, the sex act, sexual activity, sexually active, sex	Assumed
20	Marston et al.	2013	Kenya	Statistical analysis of survey data	Adolescent sexual debut	Sexual activity, sex, sexual intercourse, sexual debut	Assumed
21	Mathews et al.	2008	South Africa	Survey	Adolescent first sexual intercourse	Virgin, sexual intercourse, sexual debut, vaginal intercourse, anal intercourse	Defined
22	Mavhu et al.	2008	Zimbabwe	Cognitive interviewing	Sexual behaviour reporting	Vaginal sex, anal sex, sex, had sex, first sex,	Defined
23	Meekers et al.	2010	Sub-Saharan Africa	Analysis of survey data	Sexual initiation & premarital child-bearing	Sex, sexual relations, sexual intercourse	Assumed
24	Mensch et al.	2008	Malawi	Survey & interviews	Adolescent sexual behaviour reporting	Had sex, sex, sexual intercourse, first sex, virgin,	Assumed
25	Molla et al.	2008	Ethiopia	Cross-sectional survey	Virginity values & youth sexual behaviour	Sexual initiation, virgin, virginity, sex, sexual debut	Assumed
26 27	Palen et al.	2006, 2008	South Africa	Longitudinal survey	Youth sexual behaviour & substance use	Sexual intercourse, first intercourse, sex,	'sex' defined as: "intimate contact with someone during which the penis enters the vagina (female private parts)?" (p223, 2008) – PAI not mentioned
28	Patrick et al.	2010	South Africa	Qualitative study	Adolescent sexual behaviour	Sexual intercourse, penetrative sex, had sex	Assumed
29	Peltzer	2010	8 African countries	Analysis of survey data	Adolescent sexual debut	Sexual debut, sexual intercourse, sexual activity, sex,	Assumed
30	Rijsdijk et al.	2012	Uganda	Survey	Adolescent delayed sex	Sexual abstinence, virgin, non-virgin, sexual intercourse, sex, anal sexual	Defined


						intercourse, vaginal intercourse	
<b>31</b>	Tennekoon & Rosenman	2011	Sub-Saharan Africa	Analysis of survey data	Misreporting of sexual behaviour	Sex, having sex, virgin, virginity, pre-marital sex	Assumed
<b>32</b>	Undie et al.	2007	Malawi	Qualitative study	Youth sexual metaphors	Heterosexual intercourse, sex, sexual intercourse	Assumed
<b>33</b>	Vos	1994	Zimbabwe	Qualitative study	Sex attitudes	Sex, penetrative vaginal sex, anal intercourse, anal sex,	Defined
<b>34</b>	Wand & Ramjee	2014	South Africa	Cohort study	Coital debut & HIV prevalence	Sexual debut, sexual intercourse, first sex, having sex, vaginal sex	Term 'vaginal sex' used, but PAI not mentioned
<b>35</b>	Wickstrom	2010	South Africa	Ethnographic study	Virginity testing	Virginity, sex, sexual intercourse	Assumed
<b>36</b>	Winskell et al.	2011	Sub-Saharan Africa	Qualitative narrative analysis	Abstinence narratives	Abstinence, first sex, having sex, virgin, virginity	"Having sex' is presumed to mean penetrative penile-vaginal intercourse as there are few references to alternatives in the abstinence-themed data" (p949) – PAI mentioned but not included
<b>37</b>	Zaba et al.	2004	6 African countries	Analysis of survey data	Age at first sex	First sex, virgin, had sex, sexual debut, premarital sexual activity	Assumed





## Appendix 5: Support letter from Doctoral Degrees Board for including publications in thesis

JUSY, Z



**Professor and Head of Division of Medical Biochemistry**  
**Department of Clinical Laboratory Sciences**

**Peter Meissner PhD(Med)**

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23<sup>rd</sup> January, 2015

Professor Danie Visser  
Deputy Vice-Chancellor and Chair: Doctoral Degrees Board  
UCT

(This via email)

Dear Professor Visser,

**Re: Request to submit a PhD thesis including publications by PhD student Zoe Duby (DEYZOE001)**  
**[Heterosexual Anal Sex and HIV in Five Sub Saharan African countries].**  
**Supervisor: A/Professor Christopher Colvin (School of Public Health)**

Following discussion with this student, and her supervisor, I have now considered the request to include publications in her thesis, and her motivation (attached) on behalf of our Faculty Committee and A/Prof Denver Hendricks. I am satisfied that the thesis will meet our UCT criteria in all respects.

Zoe has been working on her PhD since 2010 (when she first registered). She has been associated with the topic as a researcher, particular through her leading role in the so-called VOICE-D project – an African multinational project aimed at studying Vaginal and Oral Interventions to Control the Epidemic (i.e. the HIV epidemic). In essence this is a groundbreaking study (made up of smaller related studies) embracing the often taboo subject of heterosexual penile-anal intercourse in the context of sub-Saharan Africa, and its role in HIV transmission.

Her rationale for requesting permission to include publications the thesis is based on the fact that it represents data from multiple studies, all focusing on heterosexual penile-anal intercourse in sub-Saharan Africa, and forming a nicely cohesive overarching study but embraced in discreet publications/chapters. It also enables her to contribute to research in the field at the earliest possible opportunity, which is important as the field of HIV prevention is fast moving, particularly in the realm of biomedical prevention products such as microbicides. By publishing as she goes her findings are more immediately accessible. Further, working with co-authors who are experienced in the field, has strengthened her work by engaging in 'peer review' as part of the publication process and in fact has added significantly more 'value' to her work.

She gives a full outline of the various chapters of her thesis in her motivation (attached), as well as her overall project. This spells out the way in which she has dealt with the research topic(s) and structured the thesis. It also indicates what her role on the publications is/was. Note that some of these publications are in fact publications in accredited journals but emanating from presentations at various appropriate conferences.

The thesis lends itself to distinct chapters, which are covered and well presented through a series of publications as the thesis objectives are *in line* with these outputs. Of the six included publications one is published, one is under revision, and the rest are about to be submitted in a variety of journals. The student is the lead author in all cases.

The publications will be included word-for-word, in full in the thesis.

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"Our Mission is to be an outstanding teaching and research university, educating for life and addressing the challenges facing our society."

In summary: **I am happy that the candidate submits her PhD for examination as outlined in the motivation, including all the published, submitted, or 'under revision' papers listed.**

I trust this is sufficient for you to apply your mind to supporting this.

Sincerely

Peter Meissner  
Professor and Chairman: Faculty Doctoral and Masters Committee

cc: A/Prof Denver Hendricks; A/Prof Chris Colvin; Lara Goldin – DDB; Adri Winckler – FHS Postgrad. office.

Attached:

1. Dube letter of motivation
2. Letter of support from Chris Colvin

*Approved on behalf  
of the DDB.*

*Adri Winckler  
28/1/15*

## Appendix 6: Statement from co-authors (VOICE-D papers)



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6 February, 2015

### Statement of support from co-authors

Student: Zoe DUBY  
Student number: DBYZOE001  
Department: School of Public Health and Family Medicine, University of Cape Town  
Academic supervisor: Christopher Colvin

The following manuscripts, from the VOICE-D study, are to be included in Ms DUBY's PhD thesis. All three have been submitted to international peer reviewed journals, and are currently under review.

1. **Zoe DUBY**, Miriam Hartmann, Elizabeth T. Montgomery, Christopher J. Colvin, Barbara Mensch and Ariane van der Straten.  
***Condoms, lubricants and rectal cleansing: Practices associated with Heterosexual Penile-Anal Intercourse amongst participants in an HIV prevention trial in South Africa, Uganda and Zimbabwe***  
- Submitted to *AIDS & Behavior* (January 2015).
2. **Zoe DUBY**, Miriam Hartmann, Imelda Mahaka, Otilia Munaiwa, Josephine Nabukeera, Nozipho Vilakazi, Funeka Mthembu, Christopher Colvin, Barbara Mensch, Ariane van der Straten.  
***Lost in translation: Language, Terminology and Understanding of Penile-Anal Intercourse in an HIV prevention Trial in South Africa, Uganda and Zimbabwe***  
- Submitted to *The Journal of Sex Research* (January 2015).
3. **Zoe DUBY**, Miriam Hartmann, Elizabeth T. Montgomery, Christopher J. Colvin, Barbara Mensch and Ariane van der Straten.  
***Sexual Scripting of Heterosexual Penile-Anal Intercourse amongst participants in an HIV prevention trial in South Africa, Uganda and Zimbabwe***  
- To be submitted to *Culture, Health and Sexuality* in February 2015.

Ms. DUBY is the lead author on all three manuscripts. At the outset of the project, Ms DUBY played an advisory role in the collection of data on heterosexual anal sex. She was involved in the design of data collection tools, in the training of site interviewers, and in over-seeing the data collection process. Ms DUBY coordinated the transcription and translation process of all the audio files from the interviews. Once the transcription process was completed, Ms DUBY was one of the four analysts of the qualitative data from VOICE-D, and was involved in the development of a codebook and in the coding itself. She led the analysis of all the data that are part of these three manuscripts. In the manuscripts listed above, Ms DUBY wrote the draft versions of each paper, and revised it according to co-authors comments.

As Protocol Chair and lead investigator on the VOICE-D (MTN-003D) study, and co-author on all 3 manuscripts to be included in Ms DUBY's thesis, on behalf of the other co-authors and the VOICE-D study team, I attest to Ms DUBY's leading contribution to the manuscripts to be included in her PhD thesis.

Dr Ariane van der Straten  
Protocol Chair of VOICE-D

*turning knowledge into practice*

RTI International is a trade name of Research Triangle Institute.

## Appendix 7: VOICE-D Interview Guide Excerpt

The excerpt below is the second half of the VOICE-D interview guide. The first half covered topics such as motivations to join the clinical trial, experiences during the trial, and adherence to study products. The questions below related to PAI practice. These interview guides were translated into Zulu, Shona and Luganda.

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### **Anal sex**

#### **Understanding Anal Sex**

*Interviewer script: We've now reached the second part of our interview. During this part of our discussion, I'd like to talk about different sexual behaviors women may engage in. I'd like to start by using pictures to help us understand how you think about the female body.*

*[Note to Interviewer: Show the participant the visual template and ask a series of questions to help her draw or show where the vaginal opening and anus are located. Use the visual to discuss with the participant different functions for these parts, ways those parts of the body can feel pleasure or pain, and probe about words/terms for sexual behaviors, specific positions during sexual intercourse, and how these may be understood as different or not from anal sex. After the participant is finished, confirm or correct the participant's understanding of what is meant by anal sex before moving on to the next section of the interview.]*

#### **Anal Sex Decisions:**

*Interviewer script: Now let's talk a little more about anal sex. In the VOICE ACASI, women were asked how many times they had anal sex in the past 3 months. At the beginning of the VOICE study, almost 900 women said they had anal sex at least one time in the past 3 months.*

1. How common do you think anal sex among women is in this area or community?
  - Is anal sex talked about openly?
  - Which types of people do you think have anal sex?
2. What are all the reasons you think a woman might have anal sex?
3. How do you think anal sex is generally introduced into a sexual relationship?
  - What types of relationships does it happen in?
  - Who suggests or initiates anal sex (the man, the woman, both)? Do women have a choice to say yes or no?
  - Does anal sex usually happen before or after a round of vaginal sex or does it happen when vaginal sex does not occur?
4. In what types of circumstances or situations do you think a woman might have anal sex?
  - Have you ever found yourself in a similar circumstance/situation? Can you tell me about it?

### **Lubricant/Gel Use During Anal Sex:**

5. If a woman did have anal sex, what types of products would she use before or during sex?
  - Are there any cleansing practices that are common before people have anal sex? What are they? (e.g. enemas, douching)
  - Would she use any type of lubricant during anal sex? Why or why not?
  - Would condoms be used? Why or why not?
  - What other type(s) of product would she use?

*Now let's think specifically about the women in VOICE who were using the gel.*

6. Would a woman use the gel during anal sex?
  - Why or why not?
7. If she did use the gel, how would she use it?
  - Where would she use it? [Use body mapping diagram if necessary]
  - If she used the gel rectally, for what reasons would she put the gel in her anus?
  - [If gel participant] Have you ever found yourself in a situation when you used the gel rectally? Can you tell me about it?

## **Appendix 8: Informed Consent Form for VOICE-D**

### **SAMPLE INFORMED CONSENT FORM DIVISION OF AIDS, NIAID, NIH**

#### **MTN-003D An Exploratory Study of Potential Sources of Efficacy Dilution in the VOICE Trial Version 1.0**

**May 15, 2012**

**PRINCIPAL INVESTIGATORS:  
PHONE:**

#### **INFORMED CONSENT**

You are being asked to take part in this research study because you are a woman who took part in the VOICE trial and received study product for at least three months. Approximately 80 women will participate in this study at multiple sites. Before you decide if you want to join this study, we want you to know about the study. This Screening/Enrollment consent form gives you information about this study. MTN-003D staff will talk with you about the study and answer any questions you may have.

#### **YOUR PARTICIPATION IS VOLUNTARY**

Before you decide whether to be in MTN-003D, we would like to explain the purpose of the study. If you decide to enroll in this study, you may decide to withdraw from the study at any time. There will be no penalty for refusing to participate or choosing to withdraw from this study.

#### **PURPOSE OF THE STUDY**

The main goal of this study is to better understand VOICE participants' use of study product and sexual behavior while participating in VOICE.

#### **STUDY PROCEDURES**

There are no medical procedures or drugs involved in this research study. If you agree to join this study, you will have an interview in the presence of one or two MTN-003D research staff members. If you agree, the interviewer will ask you some brief questions and write your responses on a form. The interviewer will also ask more in-depth questions, during which time she may take notes and will audio-record your conversation. None of the clinic staff who worked with you when you participated in VOICE will be involved with this study nor will they will have any knowledge of the specific responses that you provide.

You will be asked some general questions, such as your age, education, living situation, relationship status, and health. The interviewer will also ask questions about your experiences while participating in the VOICE trial. These will include questions about different ways women used their study product, your use of the study products and your understanding of the questions in VOICE that asked about product use and sexual behaviors. The interviewer will discuss your opinions about sexual behavior in your community, including anal sex. Anal sex is when a male inserts his penis into a woman's anus. You will not be required to discuss your personal sexual behavior.

We expect the interview procedures will take up to 3 hours and will be completed at a place agreed upon by you and the study staff which may be your home, a designated neutral study interview location, the clinic you went to for your VOICE visits or another convenient place of your choice.

To obtain information about your participation in VOICE, the MTN-003D study team will need to consult your VOICE research records. By signing this form, you are giving the MTN-003D study team permission to look up and record the needed information from your research record.

### **RISKS AND/OR DISCOMFORTS**

During the interview we may ask you some questions that cause you to feel embarrassed or uncomfortable. You can choose not to answer questions in the interview at any time. It is also possible that people or family members may find out you are participating in this study. As a result, they may ask questions about the study, treat you unfairly, or you may encounter problems in being accepted by your family and/or community.

Another possible risk of this study is loss of confidentiality of the information you give. Every effort will be made to protect your confidential information, but this cannot be guaranteed. To reduce this risk, we will strictly protect the information recorded during your interview. The audio recording, notes, and analyses from these materials will be kept confidential. This means that no one other than the MTN-003D interview team will have access to your responses. The information that links you to the research materials will be kept in a secure location. Your voice recordings will also be kept in a secure location and only people involved with the study will have access to these recordings. When the information on the voice recording is typed onto paper, the recording will be destroyed. Study leaders will make sure this happens.

In the unlikely event that you get injured as a result of your study participation, it is important that you know the US National Institutes of Health (NIH) does not have a mechanism to provide direct compensation for research-related injury.

### **NEW INFORMATION**

You will be told about new information from this or other studies that may affect your health, welfare or willingness to stay in this study.

### **BENEFITS**

There are no direct benefits to participating in this study. However, the information you provide may help researchers improve counseling materials about product use and sexual behavior, and ways to improve reporting these behaviors in future studies.

### **REASONS WHY YOU MAY BE WITHDRAWN FROM THE SUBSTUDY WITHOUT YOUR CONSENT**

You may be removed from this study without your consent for the following reasons:

- The study is stopped or canceled
- The study staff feels that staying in the study would be harmful to you
- The study is stopped by NIAID, the MTN, the Office for Human Research Protections (OHRP), other government or regulatory authorities, or site IRBs/ECs
- Other administrative reasons

### **ALTERNATIVES TO PARTICIPATION**

There may be other studies going on here or in the community that you may be eligible for. If you wish, we will tell you about other studies we know about.

**COSTS TO YOU**

There is no cost to you for being in this study.

**REIMBURSEMENT**

*[Sites to insert information about local reimbursement:]*

You will receive [\$xx] for your time, effort, and travel for your MTN-003D visit.

**CONFIDENTIALITY**

We will do our best to make sure that the personal information gathered for this study is kept private, and it will not be shared with VOICE site staff. However, absolute confidentiality cannot be guaranteed. Your personal information may be disclosed if required by law. Any publication of this study will not use your name or identify you personally.

The Microbicide Trials Network (MTN) study is sponsored by the US NIH.

Your records may be reviewed by any or all of the following:

- The MTN-003D study staff
- [insert applicable local authorities, e.g., Ministry of Health, medicine control authority]
- Site IRBs/ECs
- Representatives of the US OHRP, NIH, National Institute of Allergy and Infectious Diseases (NIAID), and/or contractors of the NIH, and other local or US regulatory authorities, and of the MTN

**PROBLEMS OR QUESTIONS**

If you ever have any questions about this study, you should contact [insert name of the investigator or other study staff] at [insert telephone number and/or physical address].

If you have questions about your rights as a research participant, you should contact [insert name or title of person on the IRB/EC or other organization appropriate for the site] at [insert telephone number and/or physical address of above].

If you have questions about whom to contact at the research site, you should contact [insert name of the investigator or community educator or community advisory board (CAB) member [staff will decide which] at [insert telephone number and/or physical address].

**SIGNATURES**

*[Insert signature blocks as required by the local IRB/EC:]* If you have read this consent form, or had it read and explained to you, and you understand the information, and voluntarily agree to participate in the study, please sign your name or make your mark below.

Participant Name (print)	Participant Signature or Mark	Date
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Study Staff Conducting Consent Discussion (print)	Study Staff Signature	Date
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Witness Name	Witness Signature	Date
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## Appendix 9: Masiphumelele study FGD guide

### *Focus Group Discussion (FGD) Guide*

Start with all FGDs with body mapping:

- Respondents draw life size naked person (one of each sex) on paper (emphasise that it does not have to be a good drawing, they can trace around themselves if necessary, or draw a stick figure)
  - On the body map draw a star by each part of the body that can be sexually stimulated
  - Label all the ways that people can have sex, stimulate each other sexually
  - Label all the different terms/words for sexual behaviours
1. Looking at the body maps, go through the sexual behaviours that are labelled, asking in turn respondents to explain these and give different terms for them.
    - Which of these behaviours can be openly talked about? Which can't? Why...
    - Which of these are commonly practiced, which aren't?
    - Which kind of people practice different behaviours?
  2. Use body maps to discuss areas of pleasure/pain, and which behaviours can be pleasurable/painful.
  3. Which behaviours are initiated/preferred by men/women/both? Why? How? When? (In what situations / circumstances?)
  4. Which behaviours are practiced in which kind of relationships? Probe on long-term relationships vs. short-term relationships.
  5. What are the reasons people engage in different sexual behaviours? Probe on specific behaviours mentioned... (specifically on anal sex if it is mentioned)
  6. What commodities/products do people use for different sexual behaviours? (e.g. probe on condoms, lubricants, tightening agents, drying agents etc)
  7. Probe on attitudes towards homosexuality/heterosexuality as related to different sexual behaviours
  8. "If a young girl has had anal sex but never had vaginal sex, do you think she is a virgin?" Discuss conceptions / definitions/ understandings of virginity (probe on male and female)
  9. Knowledge on HIV and STIs (link back to body map and to specific sexual behaviours that have been mentioned).
  10. Any other questions/comments?

## **Appendix 10:**

### **Informed Consent Form for Masiphumelele FGDs**

#### **Informed Consent Document FOCUS GROUP DISCUSSION**

#### **Conceptualising Heterosexual Anal Sex and HIV in Cape Town, South Africa**

**19<sup>th</sup> August 2013**

#### **PRINCIPAL INVESTIGATOR:**

Zoe Duby, Desmond Tutu HIV Foundation / University of Cape Town

**PHONE:** +27 21 650 6987

#### **INFORMED CONSENT**

Before you decide if you want to join this study, we want you to know about the study. This consent form gives you information about this study. Study staff will talk with you about the study and answer any questions you may have.

#### **YOUR PARTICIPATION IS VOLUNTARY**

Before you decide whether to be in this study, we would like to explain the purpose of the research. If you decide to enrol in this study, you may decide to withdraw from the study at any time. There will be no penalty for refusing to participate or choosing to withdraw from this study.

#### **PURPOSE OF THE STUDY**

The main goal of this study is to better understand current knowledge, attitudes, behaviours, practices and cultural perspectives around sexual behaviour and HIV in Cape Town. The findings of this research could improve the implementation of future HIV prevention in Africa.

#### **STUDY PROCEDURES**

There are no medical procedures or drugs involved in this research study. If you agree to join this study, you will take part in a focus group discussion (FGD). An FGD is a group discussion where participants sit in a circle with an interviewer and a note-taker, and discuss topics that the interviewer introduces. At this FGD there will be 6 to 8 other participants and you will have a group discussion facilitated by 2 research staff. Activities at the FGD you may be asked to participate in activities involve drawing pictures. You will be asked to complete a form on your own which includes questions on things like your age and sexual experience. You will also be asked to answer a brief questionnaire at the beginning of the FGD,

We expect the FGDs will take approximately 3 hours (this includes the Informed Consent process and the FGD itself) and will be conducted at a convenient, private and safe venue. You may not share any of the discussions that take place at the FGD with anyone who was not present. With consent from all the participants, the FGD to be audio-recorded; if anyone decides not to consent to the recording, the discussion will be recorded by taking notes.

#### **RISKS AND/OR DISCOMFORTS**

During the FGD we may ask you some questions that cause you to feel embarrassed or uncomfortable. You can choose not to answer questions or take part in the discussion at any time. It is also possible that people or family members may find out you are participating in this study. As a result, they may ask questions about the study, treat you unfairly, or you may encounter problems in being accepted by your family and/or community.

Another possible risk of this study is loss of confidentiality of the information you give. Every effort will be made to protect your confidential information, but this cannot be guaranteed. To reduce this risk, we will strictly protect the information recorded during the FGD. The audio recording, notes, and analyses from these materials will be kept confidential, and only study staff will have access to this study documentation. The information that links you to the research materials will be kept in a secure location. Your voice recordings will also be kept in a secure location and only people involved with the study will have access to these recordings. When the information on the voice recording is typed onto paper, the recording will be destroyed. Study leaders will make sure this happens.

As an FGD is a group discussion, there will be other community members present; a code of conduct will be established at the FGD and all participants will be requested to keep all discussions confidential. There is a possibility that other participants in the group discussion might repeat things outside the group, even though they will be requested to keep everything that is discussed confidential.

If any of the discussions that we have upset you or bring up any traumatizing issues for you and you feel you need to speak to someone, we will arrange for you to be referred to a relevant community-based organization that provides counseling and support services.

### **BENEFITS**

There are no direct benefits to participating in this study. However, the information you provide may help researchers improve counselling materials about product use and sexual behaviour, and ways to improve reporting these behaviours in future studies.

### **COSTS TO YOU**

There is no cost to you for being in this study.

### **REIMBURSEMENT**

You will receive R50.00 for your time, effort, and travel for your participation in a FGD. There will be refreshments available at the FGD.

### **CONFIDENTIALITY**

We will do our best to make sure that the personal information gathered for this study is kept private, and it will not be shared with anyone. However, absolute confidentiality cannot be guaranteed. Your personal information may be disclosed if required by law. Any publication of this study will not use your name or identify you personally.

### **PROBLEMS OR QUESTIONS**

If you ever have any questions about this study, you should contact Zoe Duby at the Desmond Tutu HIV Foundation. (Tel. +27 21 650 6969)

If you have questions about your rights as a research participant, you should contact the Human Research Ethics Committee in the Faculty of Health Sciences at the University of Cape Town at Room E52-54 Groote Schuur Hospital, Old Main Building, Observatory. (Tel. +27 21 406 6338)

**SIGNATURES**

If you have read this consent form, or had it read and explained to you, and you understand the information, and voluntarily agree to participate in the study, please sign your name or make your mark below.

_____ Participant Name (print)	_____ Participant Signature or Mark	_____ Date
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_____ Study Staff Conducting Consent Discussion (print)	_____ Study Staff Signature	_____ Date
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**FUTURE CONTACT CONSENT**

If you are willing to be contacted again to take part in future research activities for this study, please indicate your consent for us to re-contact you below:

_____ Participant Name (print)	_____ Participant Signature or Mark	_____ Date
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## **Appendix 11: Informed Consent Form for case study**

### **Informed Consent Document IN-DEPTH INTERVIEW**

#### **Conceptualising Heterosexual Anal Sex and HIV in Cape Town, South Africa**

**19<sup>th</sup> August 2013**

#### **PRINCIPAL INVESTIGATOR:**

Zoe Duby, Desmond Tutu HIV Foundation / University of Cape Town

**PHONE:** +27 21 650 6987

#### **INFORMED CONSENT**

Before you decide if you want to join this study, we want you to know about the study. This consent form gives you information about this study. Study staff will talk with you about the study and answer any questions you may have.

#### **YOUR PARTICIPATION IS VOLUNTARY**

Before you decide whether to be in this study, we would like to explain the purpose of the research. If you decide to enrol in this study, you may decide to withdraw from the study at any time. There will be no penalty for refusing to participate or choosing to withdraw from this study.

#### **PURPOSE OF THE STUDY**

The main goal of this study is to better understand current knowledge, attitudes, behaviours, practices and cultural perspectives around sexual behaviour and HIV in Cape Town. The findings of this research could improve the implementation of future HIV prevention in Africa.

#### **STUDY PROCEDURES**

There are no medical procedures or drugs involved in this research study. If you agree to join this study, you will be interviewed in the presence of one or two research staff members. During the interview, the interviewer will ask questions about your previous sexual behaviours, your experiences around sex, your knowledge and attitudes regarding sexual behaviours and HIV. The interviewer will discuss your opinions about sexual behaviour in your community. You will be asked to answer a brief questionnaire at the beginning of the interview. You may also be asked to draw pictures during the interview process, and may be asked to keep a diary.

We expect each interview to take up to 3 hours and will be completed at a place agreed upon by you and the study staff which may be a designated neutral study interview location, or another convenient place of your choice. With your consent, the interview will be audio-recorded, and the interviewer/s may take written notes. You may be asked if you are willing to participate in further interviews.

#### **RISKS AND/OR DISCOMFORTS**

During the interview we may ask you some questions that cause you to feel embarrassed or uncomfortable. You can choose not to answer questions in the interview at any time. It is also possible that people or family members may find out you are participating in this study. As a

result, they may ask questions about the study, treat you unfairly, or you may encounter problems in being accepted by your family and/or community.

Another possible risk of this study is loss of confidentiality of the information you give. Every effort will be made to protect your confidential information, but this cannot be guaranteed. To reduce this risk, we will strictly protect the information recorded during your interview. The audio recording, notes, and analyses from these materials will be kept confidential. This means that no one other than the interview team will have access to your responses. The information that links you to the research materials will be kept in a secure location. Your voice recordings will also be kept in a secure location and only people involved with the study will have access to these recordings. When the information on the voice recording is typed onto paper, the recording will be destroyed. Study leaders will make sure this happens.

If any of the discussions that we have upset you or bring up any traumatizing issues for you and you feel you need to speak to someone, we will arrange for you to be referred to a relevant community-based organization that provides counseling and support services.

### **BENEFITS**

There are no direct benefits to participating in this study. However, the information you provide may help researchers improve counselling materials about product use and sexual behaviour, and ways to improve reporting these behaviours in future studies.

### **COSTS TO YOU**

There is no cost to you for being in this study.

### **REIMBURSEMENT**

You will receive R50.00 for your time, effort, and travel for your participation in each interview. There will be refreshments available at the interview.

### **CONFIDENTIALITY**

We will do our best to make sure that the personal information gathered for this study is kept private, and it will not be shared with anyone. However, absolute confidentiality cannot be guaranteed. Your personal information may be disclosed if required by law. Any publication of this study will not use your name or identify you personally.

### **PROBLEMS OR QUESTIONS**

If you ever have any questions about this study, you should contact Zoe Duby at the Desmond Tutu HIV Foundation. (Tel. +27 21 650 6969)

If you have questions about your rights as a research participant, you should contact the Human Research Ethics Committee in the Faculty of Health Sciences at the University of Cape Town at Room E52-54 Groote Schuur Hospital, Old Main Building, Observatory. (Tel. +27 21 406 6338)

**SIGNATURES**

If you have read this consent form, or had it read and explained to you, and you understand the information, and voluntarily agree to participate in the study, please sign your name or make your mark below.

_____ Participant Name (print)	_____ Participant Signature or Mark	_____ Date
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_____ Study Staff Conducting Consent Discussion (print)	_____ Study Staff Signature	_____ Date
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**FUTURE CONTACT CONSENT**

If you are willing to be contacted again to take part in future research activities for this study, please indicate your consent for us to re-contact you below:

_____ Participant Name (print)	_____ Participant Signature or Mark	_____ Date
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## Appendix 12: Ethics approval letters

### *Ethics approval letter for Masiphumelele study (Chapter 5)*

REF: 309/2013 approval period: 30/09/2014

UNIVERSITY OF CAPE TOWN



**Faculty of Health Sciences  
Human Research Ethics Committee**  
Room ES0-24 Grootte Schuur Hospital Old Main Building  
Observatory 7925  
Telephone (021) 406 6626 • Facsimile (021) 406 6411  
e-mail: [hrtees@uct.ac.za](mailto:hrtees@uct.ac.za)  
Website: [www.health.uct.ac.za/research/humanethics/ctmre](http://www.health.uct.ac.za/research/humanethics/ctmre)

11 September 2013

**HREC REF 309/2013**

**Ms E Duly**  
C/o Dr E Givira & Prof US Besser  
Dearness Tulu HIV Foundation  
SDMM  
Nceda Street

Dear Ms Duly

**PROJECT TITLE: CONCEPTUALISING HETEROSEXUAL ANAL SEX AND HIV IN CAPE TOWN, SOUTH AFRICA**

Thank you for submitting your study to the Faculty of Health Sciences Human Research Ethics Committee for review.

Thank you for your response to the queries raised by the HREC.

It is a pleasure to inform you that the HREC has formally approved the above-mentioned study. Approval is granted for one year until **30 September 2014**.

Please submit a progress form, using the standardised Annual Report Form if the study continues beyond the approval period. Please submit a Standard Closure form if the study is completed within the approval period.  
(Forms can be found on our website: [www.health.uct.ac.za/research/humanethics/forms](http://www.health.uct.ac.za/research/humanethics/forms))

**Please quote the HREC REF in all your correspondence.**

Please note that the ongoing ethical conduct of the study remains the responsibility of the principal investigator.

Yours sincerely

**PROFESSOR M. BLOKMAN**  
**CHAIRPERSON, FHS HUMAN ETHICS**

Faculty Vice Assurance Number: FVA00001437  
E-mail:



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