SEX DEBUT AND RISKY SEXUAL PRACTICES AMONG ADOLESCENTS AGED 15-19 YEARS IN KANYAMA AND CHIPATA COMMUNITIES, LUSAKA, ZAMBIA.

Comfort Rutty Phiri
Student Number: 3908687

A mini-thesis submitted in partial fulfilment of the requirements for the degree of Master in Public Health at the School of Public Health, University of the Western Cape

Supervisor: Professor Zandile J Mchiza

August 2020

DECLARATION

I COMFORT RUTTY PHIRI hereby declare that this work has not been previously submitted in whole, or in part, for the award of any degree. It is my own work. Any sources that I have used or quoted have been cited and referenced.

ACKNOWLEDGEMENTS

Thank you, God, for giving me wisdom and the strength to complete this work. It has been by his grace and mercy. I thank my husband and my children for their support and encouragement throughout this work. I also thank my supervisor for her tireless work.

CONTENTS

ABSTRACT

Background: Approximately 16 million girls aged 15 to 19 years, and 2.5 million girls under the age of 16 years give birth each year in developing countries. Moreover, approximately 4% of 15 to 19 year olds in Zambia are HIV-infected. According to international literature, risky sexual practices and engagement in sexual activities before the age of 18 years have been implicated to adolescent pregnancies and HIV infections. There is a dearth of recent data of this kind in Zambia. The last survey on general sexual behaviours among women (i.e., the Zambia Demographic and Health Survey [ZDHS]) was done more than 7 years ago. **Aim:** To bridge this research gap, the current study aimed to determine the prevalence and extent of general sexual debut and factors associated with risky sexual practices (i.e., sex initiation before the age of 18 years [early sexual debut] and unprotected sex [having sex without a condom]) among Zambian adolescents within the ages 15 to 19 years. **Methodology:** This was a cross-sectional exploratory study. Overall, 119, 15 to 19-year-old participants were recruited from Kanyama and Chipata communities of Lusaka, Zambia. A pretested questionnaire with both open- and closed-ended questions was administered. Paper-based data was captured on an access spreadsheet and analysed using STATA version 15. **Results:** There was an equal spread between adolescents from Kanyama and Chipata communities. There were more females (72%) than males (28%). Eighty-six percent of the adolescents engaged in sexual practices, while 88% had their first sexual encounter before the age of 18 years. Thirty-eight percent of these adolescents also reported that they did not use condoms during their last sexual intercourse. Twenty-six percent had at least 1 child at the time of the study. Significantly, more females than males (70% versus 30%) engaged in general sexual practices, with about 13% of these females reporting that they had an abortion before. Eight percent and 24% reported that they were HIV positive and had sexually transmitted infections (STIs) before, respectively. Based

on the closed and open-ended questions, more adolescents from Kanyama than Chipata community who had their first sexual encounter before the age of 18 years reported that their partners demanded it (35% vs 31%). On the other hand, more adolescents in Chipata than Kanyama community who had their first sexual encounter before the age of 18 years reported that they engaged in sexual practices to have fun (38% vs 26%). According to the logistic regression analysis, being self-employed reduced the likelihood of engaging in sexual practices in general by 75% (i.e., the Odds Ratio [OR] was 0.25 with 95% CIs being 0.07-0.90, p=0.034). However, there was no associations between risky sexual practices and socio-demographic characteristics and sexual transmitted infections (STIs) of the adolescents. **Conclusion:** The outcomes of the current study suggest that a large majority of Zambian adolescents engage in early sexual debut, and a significant proportion practise unprotected sex and have STIs. The fact that most adolescents reported that they are either forced by their partners to have sex or use sex to have fun calls for an urgent attention. Policy makers therefore should urgently endorse policies and strategies to curb risky sexual practices among Zambian adolescents. Among these strategies should be those that are aimed at increasing awareness about the importance of using condoms and postponing having sex until adulthood when the highest level of education has been achieved, as this increases chances for individuals to secure financial freedom.

CHAPTER ONE

INTRODUCTION

1 Background

The World Health Organization classifies adolescents as those individuals who are between the ages of 10 to 19 years (WHO, 2021). Approximately 16 million of girls aged 15 to 19 years, and two and half millions of girls under the age of 16 years give birth each year in developing countries (WHO, 2018). The occurrence of teenage pregnancy in Sub-Saharan Africa (SSA) can be as high as 79% of all births from women below the age of 20 years. Additionally, most of these pregnancies are reported as unwanted or unintended (WHO, 2006). As a result, most pregnant adolescents end up having abortion. According to (Biddlecom et al., (2009), the majority of adolescents and about 60% of young-women and 45% of young-men in SSA have their first sexual encounter below the age of 18 years. The United Nations Fund for Population Activities (UNFPA, 2013) projects that "*the number of adolescent pregnancies will increase globally by 2030*". This group further points out that the greatest proportional increase is likely to be in the West and Central Africa as well as in the Eastern and Southern Africa.

Early sex debut has been associated with an increased chance of ill health (Kaplan, Jones et al., 2013). Moreover, HIV infections and unintended pregnancies have been shown to highly correlate with early sexual debut (Sedgh et al., 2015; Stephenson et al., 2014). There is a dearth of up-to-date data of this nature in Zambia. The last survey on general sexual behaviours of Zambian women was done more than 7 years ago (ZDHS, 2015). The ZDHS was undertaken in 2013 and 2014. The outcomes of this survey suggested that Zambian women in general have their first sexual encounter nearly a year before they are adults (i.e. at 17 years) or get married. The survey further showed that 13% of the women who are 25 to 49 years have their first sexual encounter by the age

of 15 years, while 58% engage in all forms of sexual practices when they are 18 years of age. Moreover, according to this survey, approximately 15% of women, 11% of men and 4 % of 15- to 19-year-olds in Zambia are HIV-infected.

It is therefore important to conduct a follow-up study to determine whether this available statistic on sex debut and risky sexual practices (i.e., early sexual debut and unprotected sex) among Zambians especially adolescents is improving or worsening. The information gathered will be used to inform policies and strategies that will promote healthy adolescent sexual practices and prevent teenage pregnancies in Zambia.

1.1 Problem statement

Zambia is one of the African countries where adolescents engage in risky sexual behaviors. Siziya *et al.,* (2008) conducted a study on "harmful lifestyles" clustering among sexually active adolescents in an urban school in Zambia. Out of the 2136 school-going adolescents surveyed, 3.4% reported that they engaged in sexual intercourse 12 months before this survey was conducted. Among these adolescents, 16.4% were males and 9.7% were females. However, the adolescents surveyed came from rural Zambian communities and attended schools in urban Zambian communities (Oljira *at el.*, 2012). Because the figures mentioned above were for school-going adolescents who may not necessarily come from the urban communities, it is possible that the picture may be different among adolescents at the urban Zambian community level. Moreover, it may happen that adolescents from the rural Zambian communities practise different sexual activities than those in the urban communities. Of note is that, in the latest ZDHS conducted in 2013 and 2014, it was noted that "29% of adolescent women aged 15-19 years were already mothers or pregnant with their first child at the time of the survey". These statistics show that adolescents are engaging in sexual practices quite early in life and are not practicing safe sex. This

also implies that Zambian adolescents may be underutilizing sexual and reproductive health services available for them at healthcare facilities. These problems therefore call for urgent attention. Collecting recent data regarding sexual practices of Zambian adolescents at the urban community level and researching their access to health facilities could be a step ahead in the quest of planning and developing interventions to curb teenage pregnancies, risky sexual behaviours and STIs among Zambian adolescents. Hence the current study is mandatory.

1.2 **Justification of the Study**

"The Zambia National HIV and AIDS Strategic Framework (NASF) 2017-2021 states that adolescents within the ages of 15-19 years are at risk of STIs such as HIV and unplanned pregnancies (NASF, 2017-2021)". They therefore require a combination of targeted interventions and strategies to support Zambia HIV / Sexual Reproductive Health services by 2021. In this regard, it was of great importance for the current study to be conducted, to detect factors associated with early sex initiation and unprotected sex among Zambians aged 15-19 years, in order to inform policies directed at endorsing the interventions to address the afore-mentioned problems.

This study gathered data on the current statistics on risky sexual practices including early sexual debut and unprotected sex among adolescents who attended two urban hospitals (healthcare centres) served by the Zambian government in Chipata and Kanyama communities in Lusaka. Consequently, the current study aimed to add to existing literature on factors that influence early sex initiation and unprotected sex among adolescents aged 15 to 19 years. These findings will be used to plan and develop interventions to curb risky sexual practices among young people at urban community level. Among these interventions are creating awareness strategies directed at informing adolescents about the consequences of participating in unprotected sexual practices and early sex initiation. Moreover, this research will help in fostering work with different Zambian

stakeholders to make healthcare facilities friendlier to adolescents and young adults, as well as empower children with healthy sexual knowledge, among others.

1.3 Study aim

The main aim of the current study therefore was to determine the prevalence and extent of general sexual debut and factors associated with risky sexual practices (i.e., sex initiation before the age of 18 years [early sexual debut] and unprotected sex [having sex without a condom]) among Zambian adolescents within the ages 15 to 19 years.

1.4 Study objectives

1. To determine the proportion of adolescents in Chipata and Kanyama communities who: i) participated in sexual activities in general, ii) had early sexual debut, iii) had unprotected sex, iv) were pregnant, v) had abortion, vi) were HIV positive and vii) had other STIs
2. To describe the determinants of i) engaging in sexual activities in general, ii) early sexual debut and iii) unprotected sex among adolescents in Chipata and Kanyama communities
3. To develop recommendations directed at curbing early sex initiation and risky sexual practices among adolescent in Chipata and Kanyama communities

CHAPTER TWO

LITERATURE REVIEW

2 Introduction

In this chapter, existing local (Zambia), regional (Africa) and global literature are discussed under the topics of the adolescent general sexual activities and risky sexual practices, among these being early sex initiation and engaging in sexual activities without a condom. Factors associated with the afore-mentioned sexual practices are also highlighted.

2.1 Sexual practices in general among adolescents

Some situations and circumstances have an impact on adolescent's ability to make healthy and unhealthy sexual decisions. Available literature shows that some cultural practices, family structure, school environment, keeping certain friends, living in certain communities, or devoting oneself to media activities (including print, video, audio and television) expose adolescents to sexual practices that in turn influence their decisions to engage in risky sexual practices (Lee *et al*., 2018).

2.1.1 Global literature

Worldwide, most adolescents are involved in sexual activities and are at risk of STIs, HIV, and unintended pregnancies (Morris and Rushwan 2015). While global fertility rates have declined significantly in the last decade; numerous adolescent girls between the ages of 15 and 19 are bearing children, with proportion differences observed between different geographic regions (UNESCO, 2018). The 2014 World Health Statistics indicated that the average global birth rate among 15 to 19 years olds is 49 per 1000 girls, with country rates ranging from 1 to 299 births per 1000 girls (UNESCO, 2018). Another study done in the United States has shown that "schoolboys tend to engage in sex to show proof that they have reached adulthood or are able to express of love

when compared to schoolgirls" (O'Donnell *et al.*, 2003). In fact, Woog and Kågesten (2017) have also shown that 15% of students have four or more sexual partners in their lifetime. According to this study, the number of sexual partners is differentiated by race or ethnicity (i.e., 26.1% of students who report to have four or more sexual partners are among Blacks, 13.4% among Hispanics and 13.3% among Whites).

2.1.2 Literature in low to medium income and African countries

In Sub Saharan Africa, the proportion of adolescents aged 15 and 19 years who engage in sexual activities increases with an increase in age, with about three-quarters of women and close to two-thirds of men engaging in sexual intercourse before the age of 20 years (UNAIDS, 2006). A study done in four Sub Saharan African countries (Malawi, Burkina Faso, Ghana and Uganda), showed a substantially high proportion of females than males aged 15 to 19 years who have older sexual partners (Neema *et al.*, 2006). For instance, in three of the four focus countries, more than 40% of females reported that their last partners were five or more years their seniors. According to the Advocate for Youth study (1995) young boys seem to be comfortable to report that they have multiple sexual partners that they usually have casual intercourse with when compared to young girls. According to this study, young girls usually report their first sexual encounters to be an acquaintance or a steady boyfriend. However, a study done in Mozambique by Barua and Kurz (2001), showed that while 52% of girls attending private schools were involved in sexual activities with only one partner, 82% of girls attending government schools reported that they were involved in sexual activities with multiple partners. In a study done by Killeen (2010) among adolescents in Ethiopian secondary schools it was revealed that, regardless of whether one is in school or not, once a girl or a boy reaches secondary school they are supposed to show that they are capable of engaging in sexual activities. Finally, in Uganda and Rajasthan, the prevalence of sexual activities

among adolescent girls is 11.5% (Ivanova et al., 2019) and 19.4% (Palmer et al., 2017) respectively.

2.1.3 Zambian literature

There is a dearth of data regarding these topics in Zambia. According to the few studies available (ZDHS, 2015; Albert, 2012; Lwelamira et al., 2016; Nyirenda, 2012), early sexual practice among teenagers is a very big problem in the country with many factors being believed to be contributing to this. According to Albert (2012) for instance, there are social pressures that push the adolescents towards engaging in sexual practices. According to this research, some girls feel that they will only be accepted as girls once they have proven that they are sexually active. Anecdotal evidence also suggests that some Zambian parents prefer that their adolescents be in some form of sexual relationship so that they can see the reality of what marriage is all about in their future homes.

Indeed, Rosenthal (2011) has long argued that, to some adolescents early sexual practices are not accidental and unwanted. Hence, having a boy- and girl- friend in this age group is a planned and deliberate choice. According to Nyirenda (2012), for these adolescents the decision to be involved in early sexual practice is often influenced by social factors such as having a boy or a girl friend at an early age. Moreover, lack of boarding schools in Luweero district have been implicated in the increase of adolescents who engage in early sexual practice. The argument is that, children who do not have accommodation near their school often choose to cohabit with partners, a situation that puts them under pressure to engage in sexual activities.

2.2 Risky Sexual practices among adolescents

In the current section we describe risky sexual practices as the engagement in sexual activity acts such that there is an increased chance that a sexual partner can: i) be infected or can infect another individual with STI or ii) become pregnant. Dimbuene *et al*. (2014) describes a risky sexual behaviour as an activity that increases the probability that a person engaging in sexual activity with another person infected with a STI will be infected. The current literature review therefore outlines a variety of risky sexual practices among them being early sex initiation (i.e., early sexual debut), engaging in unprotected sexual activities (i.e., having sex without wearing protection or a condom), having multiple sexual partners, and engaging in sexual activities under the influence of alcohol or illicit drugs (CDC, 2009).

2.2.1 Early sexual debut among adolescents

Teenagers are starting to engage in sexual activities at younger ages. Early sexual activity contributes to serious health problems, unintended pregnancies and the onset of disease such as STIs, HIV, and AIDS amongst teenagers (Newbem *et al*., 2013; Lwelamira et al., 2016). According to a division of the Centre for Diseases Control (CDC) in the United States, approximately 18% of all new HIV diagnoses are among young people aged 13-24 (CDC, 2009). Moreover, in this report, adolescents and young adults have the highest rates of sexually transmitted diseases (STDs). Internet surfing, alcohol consumption, sexting, experimenting with drugs and other risky behavior all contribute to early sex debut (CDC, 2009).

2.2.1.1 Global literature

The coverage of sexual reproductive health education curricula in different countries such as United Kingdom and Germany focus on the reproductive system, foetal development, and the physical and emotional changes of adolescence. In Germany for instance, sexual reproductive

health education curricula normally covers all subjects concerning the human growth processes, changing of the body phenotype, emotions, the biological process of reproduction, sexual intercourse, partnership, homosexuality, unwanted pregnancies and the complications of abortion, the dangers of sexual violence, child abuse, and sexual-transmitted diseases (Sawsan et al., 2004), while it barely covers issues related to risky and consequences of risky sexual behaviours. Existing literature suggests the prevalence of early sexual debut to largely vary globally such that, in Caribbean countries such as Brazil (Ganle, Amoako, Baatiema, and Ibrahim, 2019) and Malaysia (Aliza Lodz et al., 2019) it is 67.8% and 31.7 %, respectively. Moreover, there are concerns that the onset of early sexual activity also includes risky sexual practices. Zeto and Stacy (2016) for instance, suggested that over consumption of alcohol, abusing substances, smoking, partner violence, gaming and gambling addictions, overuse of internet, especially social media, overconsumption of junk food and extreme shopping are often coupled with early sexual debut. Early sexual debut has also been associated with an increased risk of having multiple lifetime sexual partners, unprotected sex, acquiring sexually transmitted infections (STIs), unwanted pregnancy and undesirable sexual outcomes such as childhood orgasm and sexual arousal problems (Ajide and Balogun, 2018).

2.2.1.2 Literature in low to medium income and African countries

The occurrence of early sex initiation largely varies among countries such that: in 6 African countries it is reported to be 16.9% (Peltzer and Pengpid, 2015), in Ethiopia it is 18.4% (Abebe, Addis, Asmamaw, Addisu, and Ayanaw, 2019), and in Nigeria it is 41.1% (Durowade et al., 2017). The result of a study conducted among the youth in the Ambara region in Ethiopia estimated the mean ± standard deviation age of initiation of sex to be 16.7 ± 2.5 years (Tadesse and Yakob, 2015). Moreover, in Botswana, a study that was done by Ntswarang et al., (2012) among school

going adolescents to investigate risky sexual behaviours showed that 3.9% 10-14 year olds, 6.6% 15-19 year olds and 19% 20-24 year olds had their first sexual encounter when they were 14 years.

2.2.1.3 Zambian literature

There is dearth of data regarding sexual practices of adolescents in Zambia. The 3 studies we could find were conducted more than a decade ago. Even though none of the studies presented the prevalence of early sexual debut among adolescents, these studies already highlighted that early sexual practice among adolescents is a big problem that is influenced by many social related factors. For instance, according to Chatterji *et al.* (2005), poverty is associated with transactional sex in 12 Sub-Saharan African countries including Lusaka, Zambia. Furthermore, Mathews *et al*. (2008) showed that low social and economic status equally contribute to adolescents engaging in early sexual intercourse in Lusaka, Zambia. Albert (2012) on the other hand identified social pressures as factors that push adolescents to engage in early sexual practices. Among these is the fact that, in Zambia girls only feel accepted when they have proven that they are sexually active. Moreover, Albert (2012) argued that some Zambian parents encourage their adolescents to be in sexual relationships so that they obtain money from their sexual partners, who are mostly older. Rosenthal (2011) also corroborate the afore evidence by highlighting that, early sexual practices among adolescents is not accidental or unwanted. Moreover, having a boy- or a girl- friend at an early age is a planned and a deliberate choice. For these children the decision to engage in early sexual practice is often influenced by social and peer pressures. Lastly, we have already highlighted that the lack of accommodation near Zambian schools compel children to live with partners, a situation that will not only result sexual debut in general but also early initiation of sexual activities.

2.2.2 Engaging in unprotected sex (non-use of condom) among adolescents

There is long standing evidence that implicates a variety of reasons for adolescents to engage in unprotected sex. Trajman et al. (2003) for instance, have long shown that a substantial proportion of adolescents in Brazil who have sex with multiple partners or those who are sex workers engage in this activity without using condoms. Another study conducted in secondary schools in Nigeria by Owolabi et al. (2005) showed that, nearly half of sexually experienced schoolgoing children in Nigeria did not use condoms during their last sexual encounter. Owolabi et al. (2005) also suggested the lack of awareness about the risk associated with engaging in unprotected sexual practices, misconceptions about using a condom, the lack of trust of protection that the condom gives, cultural barriers related to using condoms, the lack of skill to use condoms, as well as the price and unavailability of condoms as barriers to using condoms amongst adolescents.

2.2.2.1 Global literature

The reproductive health education curricula in different countries globally seem to exclude education regarding the use of condoms and practicing safe sex. For instance, in the United Kingdom the focus of the curricula is mainly on foetal development, the physical and emotional changes that occur after conception, as well as the reproductive system of adolescents (Sawsan *et al*., 2004). Moreover, in Germany, the curriculum mainly covers all subjects concerning the growing-up process, the physical changes of the body, emotions, the biological process of reproduction, sexual activity, partnership, homosexuality, unwanted pregnancies and the complications of abortion, the dangers of sexual violence, child abuse, and sexual-transmitted diseases (Sawsan *et al*., 2004). Sometimes things like sex-positions are also included with no section in the curriculum that mentions condom use or number of sexual partner education (Sawsan *et al*., 2004).

2.2.2.2 Literature in low to medium income and African countries

Other regional studies have reported a high prevalence of inconsistent use of condoms among adolescent girls. In Colombia (Morales et al., 2018), Cameroon (Tarkang, 2014) and South Africa (Muchiri, Odimegwu, and De Wet, 2017) for instance, the prevalence of condom use among adolescents is 78%, 76% and 47%, respectively. Moreover, youth reporting multiple sexual partners vary from 5.7%, 16.6%, 51% and 71.4% in Uganda (Wroblewska et al., 2016), Malaysia (Aliza Lodz et al., 2019), Brazil and Ghana (Ganle et al., 2019), respectively.

In a study by Bailey (1998), adolescents who consumed alcohol were shown to be at risk of contracting STIs including HIV. The main reason for this that is reported in the Tanzania Demographic Health Survey (TDHS, 2004) study is that, sexual intercourse done when one or both partners are under the influence of alcohol is more likely to be unplanned, hence the couples are less likely to use condoms. A comparative study of safe sexual practices among girls at private and government schools in Mozambique showed that 56% of girls from private schools always used condoms, compared to just 32% from government funded schools (Barua and Kurz, 2001). This is despite the fact that girls at both schools had received education about how HIV and AIDS are contracted. A study conducted in secondary schools in Nigeria also showed that nearly half of sexually experienced schoolgoing pupils did not use condoms during their last sexual encounter (Owolabi *et al*., 2005).

Another study by Adaramaja *et al*. (2010) on the lifestyles of adolescents in Kaduna state, Nigeria showed that adolescent males were significantly more likely to have habits of excessive drinking, drug abuse, smoking and indiscriminate sexual practices than females. Hence these young men need to be counselled to modify their behaviours and be encouraged to adopt healthier sexual lifestyles. Another risk of engaging in unprotected sex highlighted is the fact that females can

become pregnant. In Ghana for instance, only 16% of teenage girls are able to correctly indicate when a woman is most fertile and likely to become pregnant (Glover *et al*, 2003) as such, these girls use periodic abstinence, which is the most preferred contraceptive method than condom use among the youth in Ghana (Gyekye, 1996; Tweedie and Witte, 2000; Agyei et al., 2000; Glover *et al*, 2003).

2.2.2.3 Zambian literature

As stated earlier, there is not much information on unprotected sex among adolescents in Zambia. However, the study entitled: '*When He Asks for Sex, You Will Never Refuse'*: *Transactional Sex and Adolescent Pregnancy in Zambia'* conducted by Austrian et al., (2019) showed that, about one-third of girls aged 15-19 years participating in this study were pregnant. Moreover, in this study it was revealed that when a girl feels that he owes a man something, she becomes unable to refuse sex, hence she engages in unprotected sex. Another study conducted by Hegdahi et al. (2022) showed that, while adolescents in Zambia engaged in unprotected sex, community dialogues and sexual education were shown to be effective in lowering cases of unprotected sex.

2.2.3 Engaging in other risky sexual practices amongst adolescents

According to the Risky Behavior Survey (2009), adolescents who smoke are more likely to drink alcohol and use drugs. In this survey it is also highlighted that adolescents who drink alcohol are seven times more likely to have unprotected sex than those who do not drink. Moreover, in this survey, it is highlighted that when adolescents were asked if they were drinking or using drugs, the last time they had sex, one in four of them said yes (Risky Behaviors, 2009).

2.2.3.1 Global literature

There is dearth of recent data surrounding the topic of risky sexual behaviours among adolescents. The only available research we could find was done more than 30 or 15 years ago. This research

showed that adolescent who use drugs are more likely to have numerous sexual partners, are more likely to engage in unprotected sex, and are more likely to have early and unwanted pregnancies (Mott and Heurin, 1988; Weinberg et al., 1998). Psychological factors such as having low self-esteem and low physical well-being, religiousness and diminished personal values were shown to associate with risky sexual behaviours (Mann et al., 2004). Bonell et al. (2005) further suggested several other factors, such as less education and low psychological well-being to associate with risky sexual behaviours. However, these researchers agree that the afore-mentioned evidence remains inconclusive. In van Nieuwenhuijzen et al. (2009) research, sexual risk-taking behaviour has been coupled with several other behaviours, including delinquency and substance use.

2.2.3.2 Literature in low to medium income and African countries

One study conducted in Ethiopia (Ali, 2017) and two studies conducted in Nigeria (Ejike, 2015; Ajide and Balogun, 2018) showed the prevalence of high risk sexual behaviours among adolescents is 73.28%, 98.2% and 68.3%, respectively. Similar studies conducted in Southwestern Uganda (Nighty, Elizabeth, and Daniel, 2019) and Tanzania (Lwelamira, Safari, and Masanyiwa, 2016) also showed that the prevalence of risky sexual behaviours among adolescents are 15.1% and 31.8%, respectively. A survey on determining the lifestyles of adolescents in Kaduna state, Nigeria by Adaramaja et al. (2010) showed that, significantly more adolescent males were in the habit of excessive drinking, drug abuse, smoking and indiscriminating sexual practices. Their conclusions were that; males need more counselling to modify their behaviours as a mode of encouraging them to adopt healthy lifestyles. According to the online website 4Parents.gov, it is stated that one unhealthy behaviour often leads to another. For example, adolescents who smoke are more likely to drink alcohol and use drugs. Adolescents who drink are also seven times more likely to have risky sexual practices than those who do not. We have previously presented the

findings suggesting that adolescents who were asked if they were drinking or using drugs the last time they had sex, with one in four of them said yes (Risky Behaviours, 2009).

A study linking self-regulation and proneness to risky sexual practices conducted in 2006 showed that poor or low self-regulation in middle childhood influenced adolescents' risky sexual practices and resulted in them abusing substances (Journal of Research on Adolescence, 518). In this journal, it is also highlighted that, the reason for adolescents who use drugs and alcohol to also engage in risky sexual behaviour, may be because their decision-making skills are impaired, and their inhibition mechanisms are reduced (Journal of Research on Adolescence, 519). This in in turn impairs their judgment making, such that they become spontaneous and make hazardous sexual decisions. Bailey (1998) also argued that adolescents who abuse alcohol have an increased risk of contracting sexually transmitted diseases, including HIV.

2.2.3.4 Zambian Literature

Again, there is a dearth of data surrounding risky sexual practices among Zambian adolescents. Of the studies we could find from literature is a study by Cooper (2006), where it is shown that most-young people believe that drinking increases the likelihood of sexual activity, enhances sexual experience, and promotes riskier sexual behaviours. Consistent with such belief, empirical research has shown that alcohol consumption is positively associated with engaging in high-risk sexual behaviours (Leigh and Stall, 1993) including making the decisions not to use condoms (Conner et al., 1999) and engaging in casual sex (Conner and Flesch, 2001).

2.3 Summary

According to the review of a variety of studies done in different countries by different researchers, it is clear that the prevalence of sexual debut is high globally, and there is a variety of factors that contribute to adolescents engaging in general sexual activities, initiating sex early and engaging in

unprotected sex and other risky sexual practices. The current literature review also revealed that there is still insufficient knowledge regarding the extent of general and risky sexual practices and their determinants among adolescents in Zambia. In fact, the statistics on HIV positive and other STIs among Zambian youth and the information on access to condoms and health services by Zambian youth are topics that are least researched. The Zambian government therefore has to scale up surveillance of these topics as more literature will contribute in the development of recommendations directed at curbing these unhealthy sexual behaviours, and preventing STIs and pregnancies among the Zambian youth.

CHAPTER THREE

METHODOLOGY

3 Introduction

In this chapter the methods to undertake the current research are outlined. These include the study setting, design, population, selection of respondents, inclusion and exclusion criteria, sample size, data management, statistical analysis, validity, reliability, generalizability, study limitation and ethical consideration.

3.1 Study setting

The current research work was conducted in Chipata and Kanyama urban areas in Lusaka Province of Zambia. The two above mentioned communities "are in high-density areas with a larger proportion of the population living below the poverty index line. Chatterji *et al.,* (2005), conducted a study and concluded that poverty was associated with transactional sex in 12 Sub-Saharan African countries including Lusaka, Zambia. Furthermore, Mathews *et al.* (2008) showed that low social and economic status equally contributed to adolescents engaging in early sexual intercourse in Lusaka, Zambia. Hence, Lusaka is the best urban community to select the two sites where the proposed study was conducted.

The two identified study sites are comprised of multilingual ethnic groups who commonly speak the Nyanja language. These communities' health care needs are served by primary healthcare hospitals that are supported by the government. Both hospitals offer in- and out- patient services. These hospitals were initially designed for smaller populations, but with time, the populations and catchment areas grew due to a number of factors. Among these being rural to urban migration and

informal settling (Musheke *et al.,* 2012). This makes it obvious that access to health services is difficult in these communities as the healthcare centres have since been overburdened.

3.2 Study Design

A cross-sectional exploratory study design was used to determine the prevalence of sexual debut and factors associated with risky sexual practices among 15-19-year-old individuals who are residents in Kanyama and Chipata urban communities in Lusaka, Zambia. A cross sectional study design was the most suitable to use for this study because it enabled the researcher to describe and measure the outcomes and determinants of sex debut among boys and girls aged 15 to 19 years (Setia, 2016). Since the study also looked at factors associated with early sex debut among adolescents, this research design facilitated evaluation of several exposures and multiple outcomes of the study aim at the same time. It also facilitated collection of data at one point in time and faster because no follow ups were required. This once-off study made it relatively cheap and easy to manage for the primary investigator who is also a post graduate student. It also afforded the primary investigator and opportunity to conduct the study with less difficulties regarding logistical requirements because this research design efficiently used less logistics. Because of this research design the findings of the current study can only be generalized in populations with similar characteristics as the participants included in this research. This is particularly important because the outcomes of this study from the above-mentioned communities could aid in the development of interventions that can be used to improve sexual practices of adolescents even in other similar communities (Oljira, Berhane and Worku, 2012).

3.3 Study sample selection

For the current study, respondents were conveniently sampled and only participants falling in the prescribed age groups (15 to 19 years) who mainly spoke Nyanja, and those who were residents in

the two afore-mentioned Lusaka communities were included. This selection study selection procedure was appropriate because the two afore-mentioned sites were easily accessible to the researcher, and they also had many adolescents that could be recruited from the community to give adequate information needed for the proposed research. All available adolescents who attended the healthcare facilities in the two sites were invited to participate. If an individual refused to participate, the next one was approached until the desired sample was achieved.

3.4 Inclusion Criteria

Boys and girls aged 15 to 19 years, whose parents/guardians gave written permission for them to participate in the study and also gave assent were allowed to participate. Since individuals who are 18 and 19 years are legally allowed to give consent in Zambia, only those who signed informed consent in this group were allowed to participate in the current study. Only participants assumed to be sexually active and residents in the urban communities of Kanyama and Chipata communities were recruited to take part in the current study. Finally, only those adolescents who were mentally fit and could answer the questions without being aided and those who were able to converse in Nyanja language were allowed to take part in the current study.

3.5 Exclusion Criteria

Adolescents that were below the age of 15 years or individuals older than 19 years, mentally challenged, assumed to be not sexually active, not residents in the Kanyama and Chipata communities, and those who did not hand in a written consent / assent were not included in the current research.

3.6 Sample size

The sample size was determined using the following formula: $n = \frac{z^2 p(1-p)}{\varepsilon^2}$. Where: n was the required sample size, z was the confidence level (1.96 for % confidence level), ε being the margin of error (which was assumed to be 0.08%), p being the estimated proportion 0.25% (i.e., the 25% of the total population [15 to 19 year olds in Lusaka getting pregnant], Zambian NASF 2017-2021). This study prevalence was used given that there is data on sexual behaviours of adolescents in Zambia. As such, pregnancy was used as the proxy indicator for risky sexual practices, based on the evidence that suggests that, unprotected sex results in an increased risk of teenage pregnancies.

$n = \frac{(1.96)^2 \times 0.25(1-0.25)}{(0.08)^2}$ =112.54 =113 + 5% (i.e., 6 participants, to cater for non-response) = 119 participants

3.7 Data collection

A pretested questionnaire was used to collect data. Trained fieldworkers, who were graduate level students at the University of Lusaka collected study data and were supervised by the primary investigator of the current study. Graduate students were used as research assistants to reduce costs since this research did not receive external funded, but was not funded by the primary investigator herself. Collected data was reviewed for consistence and completeness by the primary investigator. The rest of the data processing (including capturing into Excel, coding and analysis) conducted by the primary investigator was reviewed by her academic supervisor. Other quality assurance activities (such as producing an introductory letter for the survey, providing instructions for participant recruitment and handling of challenges while administering the structured questionnaire) were performed by both the primary investigator and her supervisor.

3.8 Pre-Test

The pilot study was done in 11 adolescents in Mandevu and Chawama compounds to pretest the items included in the questionnaire. These adolescents had similar characteristics to the characteristics of the adolescents included in the current study. The questionnaire contained items that investigated general sex debut and risky sexual practices among these being early sex initiation (i.e., early sex debut), engaging in unprotected sexual activities (i.e., having sex without wearing protection or a condom), having multiple sexual partners, and engaging in sexual activities under the influence of alcohol or illicit drugs. The aim of conducting the pretest was to see the feasibility of using this instrument among the current group of adolescents. During the pre-test, items (questions) that were not well constructed were rephrased and those which respondents found to be difficult to answer were made simpler.

3.9 Data management and statistical analysis

Paper-based collected data was first entered in an Access spreadsheet and transferred to STATA version 15 where it was analyzed. For quantitative data, STATA was used to conduct descriptive analysis to produce outcomes such as counts and proportions, while the chi-square test, and logistic regression were used to show group distributions and relationships between the dependant and independent variables. P-values that were less than 0.05 and Confidence Intervals (CIs) that did not overlap were used to show significant differences between groups. See detail of statistical analysis for each objective in Table 1 below.

Table 1: Statistical Analysis Using STATA Version 15

Objectives	**Analysis**
1: To determine the prevalence of adolescents: i) who engaged in general and early sexual activities, ii) those who had HIV and other sexual transmitted infections, iii) those who practiced unsafe sex, iv) those who had access to condoms and health services, and iv) the number of their sexual partners and pregnancy related status.	Counts and proportions (prevalence) were calculated for all categorical variable of interest (i.e., socio demographic characteristics & sexual behaviours and consequences) Then the distribution of sexual behaviours by sociodemographic variables were calculated using the Chi-squared test: *In this case,* data are presented as numbers (counts) and percentages (proportions/prevalence). Significance was set at $p \leq 0.05$ and CIs that do not overlap
2: To describe the determinants of engaging in sexual activities in general, early sexual debut and unprotected sex among adolescents in Chipata and Kanyama communities.	Binary logistic regression analysis (*univariate logistic regression*) was undertaken to show factors associated with general sexual activities, early sexual debut and unprotected sex (no condom use). Furthermore, the analysis was adjusted (*bivariate logistic regression*) to remove the confounding effects of age, other socio-demographic and relevant sexual related behaviours. Any outcome that showed significance (based on p-values and CIs) indicated that there was a relationship between the depended (i.e., general sexual activities, early sexual debut and unprotected sex) and independent (i.e., socio demographic characteristics & other sexual behaviours and their consequences) variables. *In this case,* the outcomes are presented as Odds Ratios (OR) and Adjusted OR (AOR), and their respective CIs and p-values
3: To develop recommendations directed at curbing early sex initiation and risky sexual practices among adolescent in Chipata and Kanyama communities	The recommendations to curb early sexual debut and risky sexual practices were derived from synthesizing the key findings from the data analysis of objectives 1 and 2. A process of prioritization was used to narrow down important findings and recommendations that aligned with key findings. This process employed the Schematic Theory of Change Model by Davis et al. (2015), where we identified the adolescent sexual practice outcomes obtained from our 3 objectives that needed improvement. We then proposed interventions that were needed to curb / improve these behaviours. We also outlined the resources needed to support our proposed interventions. The final outcome from this exercise were made to be succinct.

For data obtained from the open-ended questions, manual analysis was conducted where 4 themes were extracted from the responses given by adolescents for the question *"The last time you had sexual intercourse, why did you do it?*". These themes included statements such as, "*for fun*", "*being forced by other people in general*", "*peer pressure*", "*partner demanded sex*". The rest of the responses that did not have relevance to the current study were allocated under the theme "*other*". Then the outcomes, based on these themes were fed into the STATA version 15 package and descriptively analyzed. These outcomes are also presented in counts and proportions in Table 9 in the Results section.

3.10 Validity

In this study, the primary investigator ensured that validity was maintained by appropriately selecting a suitable study design and purposefully selected selection of study participants. Inclusion and exclusion criteria were strictly followed to ensure that only eligible participants were recruited. Furthermore, to ensure validity the questionnaire was pre-tested in a subsample of 11 participants (i.e., 9%), who had similar characteristics with the current researched sample (Heale and Twycross, 2015; Kimberlin and Winterstein, 2008).

3.11 Reliability

Reliability on the other hand, was ensured through making the questions simple and concise. The questionnaire was also translated to the local language (Nyanja) that is comfortably spoken by all the study participants. Interviews were conducted by trained fieldworkers and quality assurance was ensured by the primary investigator who checked all the collected data at the end of each day of data collection. In addition to the simplicity and conciseness of all questions, participants responded to questions with the aid of options available in the questionnaire for them to choose from (Heale and Twycross, 2015; Kimberlin and Winterstein, 2008; Twycross and Shields, 2004).

3.12Generalizability

Generalizability is the capability to use obtained outcomes of the research study in other similar settings (Polit and Beck, 2010). As such, the outcomes of the current study can only be generalizable to communities with individuals that have similar characteristics as the current study participants.

3.13 Ethical consideration

Ethics approval was obtained from the University of the Western Cape Biomedical Research Ethics Committee (BMREC, Reference Number:BM20/10/23) before the study could commence. Furthermore, authority was sought from Eres Converge (Reference Number 2021-April-014). Further permission was sought from Lusaka District Health Office, see Appendix 1. The details of the study were explained to all participants in simple language in Nyanja (the preferred language by all participants) to ensure their clear understanding of questions. Participants were given information sheets as indicated in Appendix 2 with the details of the research and what was expected from them, as well as the details of the persons to contact in case they had any queries.

The participants were told that to take part in the study was voluntary and they could refuse or discontinue their participation at any time without any form of punishment. Written informed consents from parents or guardians were sought for adolescents younger than 18 years see appendix 3and 4. Those who returned signed consent forms from parents / guardians were also asked to give assent before participating in the current study. Moreover, all participants who were 18 and 19 years were asked to give written consent before taking part in the current study.

In case a participant reported that they were forced to engage in sexual activities or had and STI we provided counselling on site and referred them to the Victim Support Unit (VSU) or a nursing sister responsible for STI management, respectively within the healthcare centre for further

guidance and investigations, especially those who were 18 years and older. We also advised the parent or guardian about the need for the children who were younger than 18 years to see the specific professional, such as a qualified counsellor, STI nurse or VSU for further guidance, support and treatment.

Confidentiality was assured such that, participants were interviewed in a private counselling room / spaces within the healthcare centre and all the information that was obtained from participants were kept in a secured place. Electronic data was kept in a computer protected with a password to prevent access by non-study staff. The password was only known by the primary investigator. No personal identifiers were put on the paper-based completed questionnaires but were assigned numbers or codes to protect the identity of the participants. All data will be kept for 5 years and discarded thereafter.

CHAPTER FOUR

RESULTS

4 Introduction

Study findings are presented in this chapter. The chapter begins with an outline of the socio-demographic profile of adolescents who took part in the current research. The proportions of sexual behaviours in general and risky sexual practices are then presented. The chapter then concludes with the presentation of factors associated with engagement in both general sexual behaviours, and risky sexual practices (presented as early sexual debut and unprotected sex) among adolescents aged 15-19 years in Kanyama and Chipata communities of Lusaka, Zambia. It is essential to note that we will use the term significant difference / significantly when the confidence intervals do not overlap between groups or the presented p values are below 0.05.

4.1 Socio-demographic profile of participants.

A total of 119 adolescents participated in the current study from both Chipata and Kanyama communities. This was a 100% response rate of all adolescents that were invited to take part in the research.

Table 2: Socio demographic characteristics, unhealthy behaviours and sexually transmitted infections of adolescents who are residents of Kanyama and Chipata communities in Lusaka, Zambia

Characteristics	Community				Total (N=116) N (%)
	Kanyama (n=60)		Chipata (n=59)		
	n (%)	Confidence Interval	n (%)	Confidence Interval	
Total	60 (50.4)		59 (49.6)		119 (100)
Sex					
Male	17 (28.3)	17.5-41.4	22 (37.3)	25.0-50.9	39 (32.8)
Female	43 (71.7)	58.6-82.5	37 (62.7)	49.1-75.0	80 (67.2)
Age (in years)					
15	3 (5.0)	1.0-13.9	4 (6.8)	1.9-16.5	7 (5.9)
16	8 (13.3)	5.9-24.6	7 (11.9)	4.9-22.9	15 (12.6)
17	14 (23.3)	13.4-36.0	14 (23.7)	13.6-36.6	28 (23.5)
18-19	35 (58.4)	44.9-70.9	34 (57.6)	44.1-70.4	69 (58)
Education level					

Never been to school	3 (5.0)	1.0-13.9	2 (3.4)	0.4-11.7	5 (4.2)
Primary	12 (20.0)	10.8-32.3	15 (25.4)	15.0-38.4	27 (22.7)
Secondary	42 (70.0)	56.8-81.1	42 (71.2)	57.9-82.2	84 (70.6)
Tertiary	3 (5.0)	1.0-13.9	0, (0)		3 (2.5)
Employment status					
Employed	3 (5.0)	1.0-13.9	4 (6.8)	1.9-16.5	7 (5.9)
Self-employed	10 (16.7)	8.3-28.5	14 (23.7)	13.6-36.6	24 (20.1)
No employment at all	47 (78.3)	65.8-87.9	41 (69.5)	56.1-80.8	88 (74)
Marital status					
Never been married	54 (90.0)	79.5-96.2	49 (83.1)	71.0-91.6	103 (86.6)
Married	6 (10.0)	3.8-20.5	7 (11.9)	4.9-22.9	13 (10.9)
Living together	0		1 (1.7)	0.0-9.1	1 (0.8)
Divorced/Separated	0		2 (3.3)	0.4-11.7	2 (1.7)
Widowed	0		0		0 (0)
Had and abortion before					
Yes	8 (13.3)	5.9-24.6	5 (8.5)	2.8-18.7	13 (10.9)
No	35 (58.3)	44.9-70.9	32 (54.2)	40.8-67.3	67 (56.3)
N/A*	17 (28.4)	17.5-41.4	22 (37.3)	25.0-50.9	39 (32.8)
Number of Children					
0	43(71.7)	58.6-82.5	40 (67.8)	54.4-79.4	83 (69.7)
1	16 (26.7)	16.1-39.7	15 (25.4)	15.0-38.4	31 (26.1)
2	1 (1.6)	0.0-8.9	2 (3.4)	0.4-11.7	3 (2.5)
3	0		2 (3.4)	0.4-11.7	2 (1.7)
HIV status					
Positive	6 (10.0)	3.8-20.5	3 (5.1)	1.1-14.1	9 (7.6)
Negative	40 (66.7)	53.3-78.3	35 (59.3)	45.7-71.9	75 (63)
Chose not to disclose	14 (23.3)	13.4-36.0	21 (35.6)	23.6-49.1	35 (29.4)
HIV test done from					
Local facility	24 (40.0)	27.6-53.5	15 (25.4)	15.0-38.4	39 (32.8)
Community	34 (56.7)	43.2-69.4	30 (50.9)	37.5-64.1	64 (53.8)
Unknown	2 (3.3)	0.4-11.5	14 (23.7)	13.6-36.6	16 (13.4)
Condom use					
Yes	36 (60.0)	46.5-72.4	37 (62.7)	49.1-75.0	73 (61.3)
No	24 (40.0)	27.6-53.5	20 (33.9)	22.1-47.4	44 (37)
Unknown	0		2 (3.4)	0.4-11.7	2 (1.7)
Access to condoms					
Yes	37 (61.7)	48.2-73.9	23 (39.0)	26.5-52.6	60 (50.4)
No	23 (38.3)	26.1-51.8	34 (57.6)	44.1-70.4	57 (47.9)
Unknown	0		2 (3.4)	0.4-11.7	2 (1.7)
Condom access through local Clinic					
Community health workers	20 (33.3)	21.7-46.7	32 (54.2)	40.8-67.3	52 (43.7)
Friends	7 (11.7)	4.8-22.6	6 (10.2)	3.8-20.8	13 (10.9)
Local clinic	24 (40.0)	27.6-53.5	9 (15.3)	7.2-26.9	33 (27.8)
Shops/Chemist	8 (13.3)	5.9-24.6	10 (17.0)	8.4-28.9	18 (15.1)
Other	1 (1.7)	0.0-8.9	2 (3.3)	0.4-11.7	3 (2.5)
Age when first intercourse					
11 to 13 years	3 (5.0)	1.0-13.9	5 (8.4)	2.8-18.7	8 (6.7)
14 to 15 years	25 (41.6)	29.1-55.1	20 (33.9)	22.1-47.4	45 (37.8)
16 to 17 years	15 (25.0)	14.7-37.9	20 (33.9)	22.1-47.4	35 (29.4)

18 to 19 years	7 (11.7)	4.8-22.6	7 (11.9)	4.9-22.9	14 (11.8)
Unknown[#]	10 (16.7)	8.3-28.5	7 (11.9)	4.9-22.9	17 (14.3)
Number Sexual partners in the last 12 months					
0	1 (1.6)	0.0-8.9	1 (1.7)	0.0-9.1	2 (1.7)
1	28 (46.7)	33.7-60.0	26 (44.1)	31.1-57.6	54 (45.4)
2	10 (16.7)	8.3-28.5	12 (20.3)	10.9-32.8	22 (18.5)
3	3 (5.0)	1.0-13.9	7 (11.9)	4.9-22.9	10 (8.4)
4-5	2 (3.3)	0.4-11.5	1 (1.7)	0.0-9.1	3 (2.5)
Chose not to disclose	16 (26.7)	16.1-39.7	12 (20.3)	10.9-32.8	28 (23.5)
Reasons for sexual intercourse					
Fun					
Forced	14 (23.3)	13.4-36.0	22 (37.3)	25.0-50.9	36 (30.3)
My friends were doing it	7 (11.7)	4.8-22.6	4 (6.8)	1.9-16.5	11 (9.2)
Partner demanded it	15 (25.0)	14.7-37.9	12 (20.3)	10.9-32.8	27 (22.7)
Other	23 (38.3)	26.1-51.8	19 (32.2)	20.6-45.6	42 (35.3)
	1 (1.7)	0.0-8.9	2 (3.4)	0.4-11.7	3 (2.5)
Alcohol/Drug use during last sex					
Yes	16 (26.7)	16.1-39.7	10 (16.9)	8.4-28.9	26 (21.8)
No	44 (73.3)	60.3-83.9	47 (79.7)	67.2-89.0	91 (76.5)
Unknown	0		2 (3.4)	0.4-11.7	2 (1.7)
Drug use other than alcohol					
No drug	57 (95.0)	86.1-99.0	51 (86.4)	75.0-93.9	108 (90.7)
Everyday	0	-	4 (6.8)	1.9-16.5	4 (3.4)
1 to 2 times a week	1 (1.7)	0.0-8.9	2 (3.4)	0.4-11.7	3 (2.5)
3 times	2 (3.3)	0.4-11.5	2 (3.4)	0.4-11.7	4 (3.4)
Had STI before					
Yes	15 (25.0)	14.7-37.9	13 (22.0)	12.2-34.7	28 (23.5)
No	45 (75.0)	62.1-85.3	45 (76.3)	63.4-86.4	90 (75.7)
Unknown	0		1 (1.7)	0.0-9.1	1 (0.8)
Access to STI treatment					
Clinic	14 (23.3)	13.4-36.0	12 (20.3)	10.9-32.8	26 (21.9)
Traditional healer	0	-	1 (1.7)	0.0-9.1	1 (0.8)
Shop	1 (1.7)	0.0-8.9	46 (78.0)	65.3-87.7	1 (0.8)
Never had STI before	45 (75.0)	62.1-85.3	0		91 (76.5)
Last clinic visit					
0-1 months ago	29 (48.3)	35.2-61.6	19 (32.2)	20.6-45.6	48 (40.3)
2-3 months ago	16 (26.7)	16.1-39.7	18 (30.5)	19.2-43.9	34 (28.6)
Can't remember	15 (25.0)	14.7-37.9	22 (37.3)	25.0-50.9	37 (31.1)
Feeling embarrassed first time at the clinic					
Agree	15 (25.0)	14.7-37.9	13 (22.0)	12.2-34.7	28 (23.5)
Disagree	45 (75.0)	62.1-85.3	46 (78.0)	65.3-87.7	91 (76.5)
Feeling welcome at the clinic					
Agree					
Disagree	45 (75.0)	62.1-85.3	48 (81.4)	69.1-90.3	93 (78.1)
	15 (25.0)	14.7-37.9	11 (18.6)	9.7-30.9	26 (21.9)
Feeling comfortable talking about sex					
Agree	45 (75.0)	62.1-85.3	48 (81.4)	69.1-90.3	93 (78.1)
Disagree	15 (25.0)	14.7-37.9	11 (18.6)	9.7-30.9	26 (21.9)

*****males since pregnancy / abortion do not apply to them; [#] missing data and those that declined to answer; HIV= Human Immune-deficiency Virus; STI= Sexually Transmitted Infections

Table 2 above shows the distribution of adolescents in each category of socio-demographic characteristics by community. In this study a total of 119 adolescents were recruited, of which 50.4% were from Kanyama and 49.6% were from Chipata. Based on Table 2 and Figure 1, there were more females than males in all the age groups, significantly so in Kanyama (i.e., 43 [72%] females' vs 17 [28%] males). Overall, the number of adolescents increased with an increase in age with the significantly highest proportion (58%) being among the older age group (18 to 19 years) (i.e., all the other age groups were significantly different to this group). At the time of the current study, in both communities most adolescents were at secondary level of education and unemployed (i.e., about 70% in Kanyama and 71% in Chipata for education level and 78% in Kanyama and 70% in Chipata for employment status). In this case, overall, only 3% and 26% reported that they were either at tertiary level of education, employed and self-employed, respectively. While there were no adolescents who were cohabiting, divorced, or separated in the Kanyama community, like in the Chipata community, most of the adolescents (about 90% in Kanyama and 83% in Chipata) had never been married before.

In this Table it is also shows that, overall, 11% of the participants had an abortion prior to participating in the current study, with 13% and 9% of these residing in Kanyama and Chipata communities, respectively. Overall, 26% of the adolescents in these two communities had a child by the time they participated in the current study, with almost an equal spread between the 2 communities (i.e., 27% in Kanyama and 25% in Chipata).

There was also a significantly higher proportion of adolescents who reported that they were HIV negative compared to those who reported that they were HIV positive. However, it is important to note that overall, 8% of the adolescents disclosed that they were HIV positive, while 29% were

reluctant to share their HIV status. Many adolescents (54%) also reported accessing HIV testing services from their communities, with 61% reporting that they practiced safe sex (i.e., used condoms) while about 37% reported that they did not. While 48% reported that they did not have access to condoms, 44% of those who reported that they did also report that they obtained condoms from their community health workers.

In this Table it is also shown that about 67% of adolescents started engaging in general sexual activities within the ages 14 to 17 years, with 7% reporting that they started engaging in sexual activities before they were 14 years old. In both communities, while 54% of the adolescents reported that they had sexual intercourse prior to participating in the current study, 29% mentioned that they had more than 1 sexual partners in the last 12 months. Majority of adolescents in Kanyama community (38%) reported engaging in sexual activities because their partners demanded it from them, while the majority in Chipata community (37%) reported that they engaged in it just for fun. In their last sexual intercourse, 22% of the adolescents reported that they were under the influence of alcohol or other illicit drugs. While there were no adolescents who reported currently using drugs / alcohol daily in the Kanyama community, at least 7% of adolescents in the Chipata community reported using substances daily. About 24% of the adolescents stated that they had suffered from STIs before, with almost an equal spread in the 2 communities. Among those who reported that they had STIs before, over 90% (i.e., n-26) reported that they could access STI treatment from their clinics.

Finally, the majority of adolescents (40%) reported that they had visited a local clinic a month prior to participating in the current research, with the majority (77%) also reporting that they were not embarrassed visiting their health centers. More than 78% reported that they either felt

welcomed in their last time of visiting the local healthcare center, or were comfortable talking about sex with their health service providers.

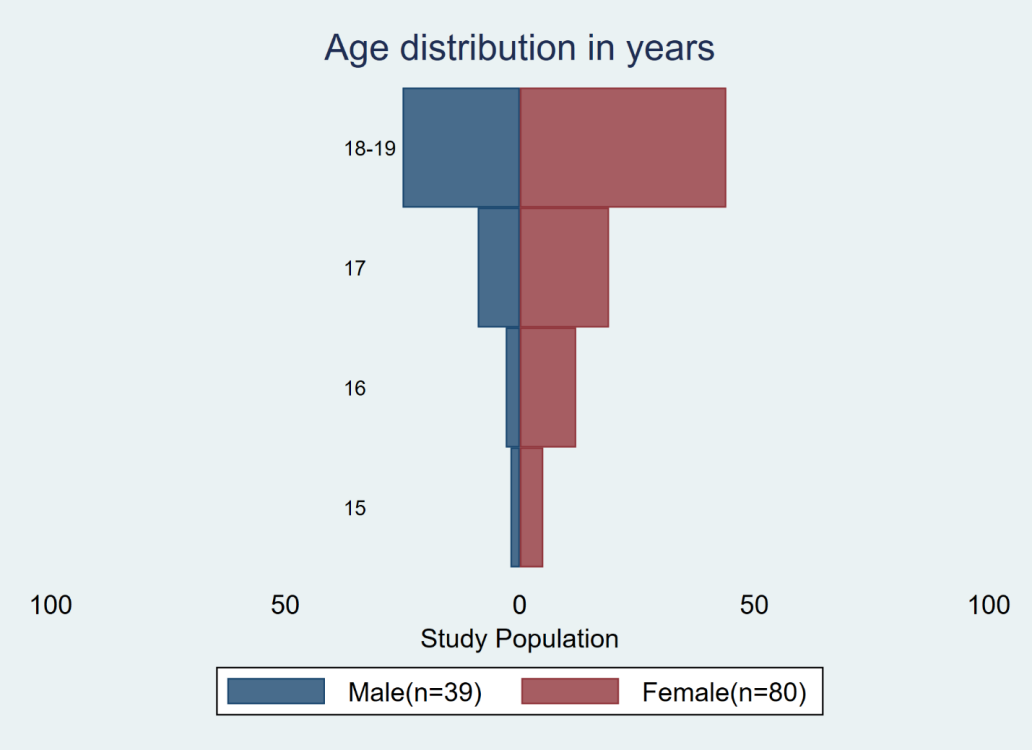

Figure 1: The distribution of age groups of the adolescents who are residents of Kanyama and Chipata communities in Lusaka, Zambia by gender

Table 3 below shows the distribution of engagement in sexual intercourse in general among the adolescents who are residents of Kanyama and Chipata communities by their socio-demographic characteristics. Overall, 86% of the adolescents had engaged in sexual intercourse prior to participating in the current study, with no significant differences observed between the two communities (i.e., 49% in Kanyama versus 51% in Chipata). Significantly more females than males (79% versus 30%) reported engagement in sexual activities. About 12% of females who reported engaging in sexual activities also reported that they had an abortion before. Of those adolescents who reported engagement in sexual intercourse, majority of them (62%) also reported

that they used condoms. There were significant differences observed between the group that used condoms and the one that did not.

Engagement in sexual intercourse significantly increased with an increase in education level and was the highest (75%) among adolescents who were at secondary and tertiary levels of education. While 17 adolescents who were not married chose not to disclose their sexual intercourse activities, all those adolescents who were married, living together or separated were comfortable sharing their sexual activities. In this case, overall, 84% of those adolescents who were never married reported that they had engaged in sexual intercourse in the past 12 months prior to participating in the current research. Of the adolescents who reported engagement in sexual activities, 24% reported that they also had STIs before, with 22% reporting that they also used alcohol or illicit drugs during their most recent sexual activity. Finally, significantly more (75%) adolescents who had no form of employment reported they had sexual intercourse before when compared to those who were employed or self-employed.

Table 3: Engagement in sexual activities in general among adolescents who are residents of Kanyama and Chipata communities in Lusaka, Zambia by socio-demographic characteristics, other unhealthy behaviours and sexually transmitted infections

Characteristics	Engagement in sexual intercourse in general				Total n (%)
	Yes (n=102) n (%)	Confidence Interval	Chose not to disclose (n=17) n (%)	Confidence Interval	
Total	102 (85.7)		17 (14.3)		119 (100)
Community					
Kanyama	50 (49)	39.0-59.1	10 (58.8)	32.9-81.6	60 (50.4)
Chipata	52 (51)	40.9-61.0	7 (41.2)	18.4-67.1	59 (49.6)
Sex					
Male	31 (30.4)	21.7-40.3	8 (47.1)	23.0-72.2	39 (32.8)
Female	71 (69.6)	59.7-78.3	9 (52.9)	27.8-77.0	80 (67.2)
Had and abortion before					
Yes	12 (11.8)	6.2-19.6	1 (5.8)	0.1-28.7	13 (10.9)
No	59 (57.8)	47.7-67.6	8 (47.1)	22.9-72.2	67 (56.3)
N/A (males)*	31 (30.4)	21.7-40.3	8 (47.1)	22.9-72.2	39 (32.8)

Condom use					
Yes	63 (61.8)	51.6-71.2	5 (29.4)	10.3-56.0	68 (57.1)
No	39 (38.2)	28.8-48.4	12 (70.6)	44.0-89.7	51 (42.9)
Education level					
Never been to school	4 (3.9)	1.1-9.7	1 (5.9)	0.1-28.7	5 (4.2)
Primary	22 (21.6)	14.0-30.8	5 (29.4)	10.3-56.0	27 (22.7)
Secondary/Tertiary	76 (74.5)	64.9-82.6	11 (64.7)	38.3-85.8	87 (73.1)
Marital status					
Never been married	86 (84.3)	75.8-90.8	17 (100)	80.5-100	103 (86.6)
Married	13 (12.7)	6.9-20.8	0		13 (10.9)
Living together/ Divorced/Separated	3 (3.0)	0.6-8.4	0		3 (2.5)
Had STI before					
Yes	24 (23.5)	15.7-33.0	4 (23.5)	6.8-49.9	28 (23.6)
No	78 (76.5)	67.0-84.3	12 (70.6)	44.0-89.7	90 (75.6)
Unknown	0		1 (5.9)	0.1-28.7	1 (0.8)
Alcohol/Drug use during last sex					
Yes	22 (21.6)	14.0-30.8	4 (23.5)	6.8-49.9	26 (21.8)
No	80 (78.4)	69.1-86.0	11 (64.7)	38.3-85.8	91 (76.5)
Unknown	0		2 (11.8)	1.5-36.4	2 (1.7)
Employment status					
Employed	7 (6.9)	2.8-13.6	0	-	7 (5.9)
Self-employed	19 (18.6)	11.6-27.6	5 (29.4)	10.3-56.0	24 (20.2)
No employment at all	76 (74.5)	64.9-82.6	12 (70.6)	44.0-89.7	88 (73.9)

*****males since pregnancy / abortion do not apply to them; STI= Sexually Transmitted Infections

Table 4 below shows the distribution of early sexual debut among the adolescents who were residents of Kanyama and Chipata communities by their socio-demographic characteristics. Overall, 86% of the adolescents initiated sex before the age of 18 years, with no significant differences observed among adolescents who reported early sexual debut between the two communities (i.e., 49% in Kanyama and 51% in Chipata). Significantly more females than males (70% versus 30%) reported early initiation of sex. Of those who reported early sex initiation, the majority (38%) reported that they did not use condoms.

Early initiation of sex significantly increased with an increase in education level and the highest (72%) was among adolescents who were at secondary and tertiary levels of education. The majority of adolescents who had early sex debut were never married. Of those adolescents who had early sexual debut, 26% reported that they had STIs before, with 23% reporting that they used

alcohol or illicit drugs during their most recent sexual intercourse. Finally, significantly more (74%) unemployed adolescents reported early sex debut compared to those that were self-employed.

Table 4: Early sexual debut among adolescents who are residents of Kanyama and Chipata communities in Lusaka, Zambia by socio-demographic characteristics, other unhealthy behaviours and sexually transmitted infections

Characteristics	Early sex debut (initiation of sexual intercourse)				Total (N=102) N (%)
	Early* (n=88)		Late** (n=14)		
	n (%)	Confidence Interval	n (%)	Confidence Interval	
Total	88 (86.3)		14 (13.7)		102 (100)
Community					
Kanyama	43 (48.9)	38.1-59.8	7 (50)	23.0-76.9 23.0-	50 (49.0)
Chipata	45 (51.1)	40.2-61.9	7 (50)	76.9	52 (51.0)
Sex					
Male	26 (29.6)	20.3-40.2	5 (35.7)	12.8-64.9	31 (30.4)
Female	62 (70.4)	59.8-79.7	9 (64.3)	35.1-87.2	71 (69.6)
Had and abortion before					
Yes	11 (12.5)	6.4-21.3	1 (7.1)	(0.1-33.9)	12 (11.8)
No	51 (58.0)	46.9-68.4	8 (57.2)	(12.8-64.9)	59 (57.8)
N/A(males)*	26 (29.5)	20.3-40.2	5 (35.7)		31 (30.4)
Condom use					
Yes	54 (61.4)	50.4-71.6	9 (64.3)	35.1-87.2	63 (61.8)
No	34 (38.6)	28.4-49.6	5 (35.7)	12.8-64.9	39 (38.2)
Education level					
Never been to school	4 (4.6)	1.3-11.2	0		4 (3.9)
Primary	21 (23.8)	15.4-34.1	1 (7.1)	0.1-33.9	22 (21.6)
Secondary/Tertiary	63 (71.6)	60.9-80.7	13 (92.9)	66.1-99.8	76 (74.5)
Marital status					
Never been married	74 (84.1)	74.8-91.0	12 (85.8)	57.2-98.2	86 (84.3)
Married	12 (13.6)	7.2-22.6	1 (7.1)	0.1-33.9	13 (12.7)
Living together/ Divorced/Separated	2 (2.3)	0.3-7.9	1 (7.1)	0.1-33.9	3 (3.0)
Had STI before					
Yes	23 (26.1)	17.3-36.6	1 (7.1)	(0.1-33.9)	24 (23.5)
No	65 (73.9)	63.4-82.7	13 (92.9)	(66.1-99.8)	78 (76.5)
Alcohol/Drug use during last sex					
Yes	20 (22.7)	14.5-32.9	2 (14.3)	1.8-42.8	22 (21.6)
No	68 (77.3)	67.1-85.5	12 (85.7)	57.2-98.2	80 (78.4)
Employment status					
Employed	6 (6.8)	2.5-14.3	1 (7.1)	0.1-33.9	7 (6.9)
Self-employed	17 (19.3)	11.7-29.1	2 (14.3)	1.8-42.8	19 (18.6)
No employment at all	65 (73.9)	63.4-82.7	11 (78.6)	49.2-95.3	76 (74.5)

*****males since pregnancy / abortion do not apply to them; *early sexual debut: first sexual encounter / initiation of sex before the age of 18 years; **late sexual debut: first sexual encounter / initiation of sex at 18 years and above; STI= Sexually Transmitted Infections

Table 5 below shows condom use (a proxy for unprotected sex) among adolescents who were residents in Kanyama and Chipata communities by their sociodemographic characteristics. Overall, 62% and 38% of adolescents reported that they used and did not use condoms during their last sexual intercourse, respectively. While there were no significant differences between adolescents who used / did not use condoms in both communities, there were significantly more females than males who reported that they did not use condoms when having sex (77% vs 23%).

The proportion of adolescents who did not practice safe sex was also significantly higher among those that had early sex initiation than those that had late sexual debut (77%] versus 11%). The proportion of those who practiced unsafe sex increased with an increase in education level, with the significantly highest prevalence (75%) being among adolescents who reached secondary or tertiary levels of education.

The proportion of unsafe sex was also significantly higher among adolescents who reported that they did not have abortion, STI and did not use illicit drugs before. Finally, no association was observed between unprotected sex and access to condom.

Table 5: The use of condoms among adolescents who are residents of Kanyama and Chipata communities in Lusaka, Zambia by socio-demographic characteristics, other unhealthy behaviours and sexually transmitted infections

Characteristics	Condom use				Total (N=117) n (%)
	Yes (n=73)		No (n=44)		
	n (%)	Confidence Interval	n (%)	Confidence Interval	
Total	73 (62.4)		44 (37.6)		117 (100)
Community					
Kanyama	36 (49.3)	37.4-61.3	24 (54.6)	38.8-69.6	60 (51.3)
Chipata	37 (50.7)	38.7-62.6	20 (45.4)	30.4-61.1	57 (48.7)
Sex					

Male	27 (37.0)	25.9-49.1	10 (22.7)	11.5-37.8	37 (31.6)
Female	46 (63.0)	50.9-74.0	34 (77.3)	62.2-88.5	80 (68.4)
Age (in years)					
15	3 (4.1)	0.9-11.5	3 (6.8)	1.4-18.7	6 (5.1)
16	9 (12.3)	5.8-22.1	6 (13.6)	5.2-27.4	15 (12.9)
17	17 (23.3)	14.2-34.6	11 (25.0)	13.2-40.3	28 (23.9)
18-19	44 (60.3)	48.1-71.5	24 (54.6)	38.8-69.6	68 (58.1)
Sexual intercourse					
Early*	54 (74.0)	62.4-83.5	34 (77.2)	62.2-88.5	88 (75.2)
Late**	9 (12.3)	5.8-22.1	5 (11.4)	3.8-24.6	14 (12.0)
Chose not to disclose	10 (13.7)	6.8-23.8	5 (11.4)	3.8-24.6	15 (12.8)
Education level					
Never been to school	2 (2.7)	0.3-9.5	3 (6.8)	1.4-18.7	5 (4.3)
Primary	18 (24.7)	15.3-36.1	8 (18.2)	8.2-32.7	26 (22.2)
Secondary/Tertiary	53 (72.6)	60.9-82.4	33 (75.0)	59.7-86.8	86 (73.5)
Marital status					
Never been married	62 (85.0)	74.6-92.2	39 (88.6)	75.4-96.2	101 (86.3)
Married	9 (12.3)	5.8-22.1	4 (9.1)	2.5-21.7	13 (11.1)
Living together / divorced / separated	2 (2.7)	0.3-9.5	1 (2.3)	0.0-12.0	3 (2.6)
Had an abortion before					
Yes	9 (12.3)	5.8-22.1	4 (9.1)	2.5-21.7	13 (11.1)
No	37 (50.7)	38.7-62.6	30 (68.2)	52.4-81.3	67 (57.3)
N/A (males)*	27 (37.0)	5.9-49.1	10 (22.7)	11.5-37.8	37 (31.6)
Had STI before					
Yes	14 (19.2)	10.9-30.1	13 (29.5) 31	16.8-45.2	27 (23.1)
No	59 (80.8)	69.9-89.1	(70.5)	54.8-83.2	90 (76.9)
Alcohol/Drug use during last sex					
Yes	16 (21.9)	13.1-33.1	10 (22.7)	11.5-37.8	26 (22.2)
No	57 (78.1)	66.9-86.9	34 (77.3)	56.3-84.7	91 (77.8)
Access to condoms					
Yes	42 (57.5)	45.4-69.0	18 (40.9)	26.3-56.8	60 (51.3)
No	31 (42.5)	30.9-54.6	26 (59.1)	43.2-73.7	57 (48.7)

***** males since pregnancy / abortion do not apply to them; STI= Sexually Transmitted Infections; *early sexual debut: first sexual encounter / initiation of sex before the age of 18 years; **late sexual debut: first sexual encounter / initiation of sex at 18 years and above

Table 6 below shows the outcomes of univariate and multivariable logistic regression (adjusted for all the sociodemographic variables).

4.2 Univariate logistic regression

In this Table we showed that there no significant associations between sexual debut in general and the sociodemographic characteristics, other unhealthy behaviours and STIs of adolescents participating in the current research. The only exception for the employment status of adolescents.

In this case, being self-employed reduced the likelihood of engaging in general sexual activities among the adolescents by 75% (OR: 0.25 with 95% CIs being 0.07-0.90).

Despite this, we thought it is essential to highlight that the odds of adolescents engaging in general sexual activities in Chipata community, among females, those adolescents whose education level was primary and secondary/tertiary levels, those who had abortion before were higher (i.e. 48% higher (95%CI, 0.52-4.21), 204% higher, (95%CI, 0.72-5.77), 10% higher (95%CI, 0.10-12.09), 73% higher (95%CI, 0.18-16.90), and 63% higher (95%CI, 0.19-14.24), respectively) than those in Kanyama community, males, those with no form of education, as well as those who never had abortion before.

The odds of engagement in sexual activities among adolescents who used condoms, had STIs before, who used alcohol or illicit drugs before, as well as those who were self-employed on the other hand were lower (i.e. 19% lower (95%CI, 0.26-2.54), 8% lower, (95%CI, 0.27-3.13), 24% lower (95%CI, 0.22-2.61) and 75% lower (95%CI, 0.07-0.90), respectively) than those who did not use condoms, who did not have STIs before, who did not use alcohol or illicit drugs, as well as those who were not employed.

In this analysis, the software omitted the marital status and other levels of education variables.

4.3 Multivariate logistic regression

After adjusting for all the sociodemographic variables including age, we still could not find any association between engagement in general sexual activities and different sociodemographic characteristics, other unhealthy behaviours and sexually transmitted infections of the adolescents participating in the current research. In this case, even the significant effect of employment status disappeared.

However, the odds of engagement in general sexual intercourse in the Chipata community, those adolescents who reported condom use, those whose education was at primary level, those who reported that they had abortion before and those who were self-employed became lower (i.e. 1% lower, (95%CI, 0.21-4.78), 26% lower, (95%CI, 0.15-3.62), 27% lower, (95%CI, 0.11-4.78), 53% lower, (95%CI, 0.03-7.86), 83% lower (95%CI, 0.02-1.55) than those of adolescents in the Kanyama community, those adolescents who did not use condoms, those with no form of education, those who did not have abortion and those who were unemployed.

The odds of engagement in general sexual activities among adolescents who reported that they had STIs before, and those that reported use of alcohol and illicit drugs became higher (i.e., 442% higher, (95%CI, 0.32-61.33) and 75% higher, (95%CI, 0.17-18.46) than those who did not have STIs or used alcohol and ilicit drugs before.

In this analysis, the software omitted other levels of education, the second category of employment status, sex and marital status variables.

Table 6: Assessing the relationship between engagement in sexual intercourse in general and socio-demographic characteristics, other unhealthy behaviours and sexually transmitted infections

Characteristics	Unadjusted Odds ratio (95% confidence interval)	P-value	Adjusted Odds ratio (95% confidence interval)	P-value
Community				
Kanyama	1	0.456	1	0.997
Chipata	1.48 (0.52-4.21)		0.99 (0.21-4.78)	
Sex				
Male	1	0.181	-	-
Female	2.04 (0.72-5.77)			
Condom use				
No	1	0.715	1	0.707
Yes	0.81 (0.26-2.54)		0.74 (0.15-3.62)	
Education level				
Never been to school	1	0.710	1	
Primary	1.1 (0.10-12.09)		0.73 (0.11-4.78)	0.747
Secondary/Tertiary	1.73 (0.18-16.90)		-	

Marital status				
Never been married	1		1	
Married	-			-
Living	-	-		
together/Divorced/Separated	-		-	
Had and abortion before				
No	1		1	
Yes	1.63 (0.19-14.24)	0.660	0.47 (0.03-7.86)	0.597
N/A (male)*	-		-	
Had STI before				
No	1	0.898	1	0.268
Yes	0.92 (0.27-3.13)		4.42 (0.32-61.33)	
Alcohol and Drug use				
No	1	0.658	1	0.641
Yes	0.76 (0.22-2.61)		1.75 (0.17-18.46)	
Employment status				
No employment at all	1	0.034	1	0.117
Employed	-		-	
Self-employed	0.25 (0.07-0.90)		0.17 (0.02-1.55)	

* males since pregnancy / abortion do not apply to them; STI= Sexually Transmitted Infections

Table 7 below shows the outcomes of univariate and multivariable logistic regression where we adjusted for all the sociodemographic variables.

4.4 Univariate logistic regression

While there was no evidence of significant associations between early sexual debut and sociodemographic characteristics, other unhealthy behaviours and STIs of the adolescents participating in the current research; we observed higher likelihood of early sexual debut in the Chipata community (5% more, 95%CI, 0.34-3.23), among females (32% more, 95%CI, 0.40-4.33), among adolescents whose education was at primary level (433% more, 95%CI, 0.53-35.14), among adolescents who were married (95% more, 95%CI, 0.23-16.36), those who had abortion (73% more, 95%CI, 0.20-15.24), those who had STIs before (460% more, 95%CI, 0.57-37.15), those who reported using alcohol or illicit drugs (76%, 95%CI, 0.57-37.15), as well as those who were employed (2% more, 95%CI, 0.11-9.27) when compared to adolescents in the Kanyama community, those who were males, those with no form of education, those who were never

married, those who reported that they never had abortion and STIs before, those who did not use alcohol or drugs, as well as those who had no form of employment.

It is also important to note that there was a slightly lower likelihood of early sexual debut (12% less, 95%CI, 0.27-2.86) among those adolescents who reported practicing safe sex by using condoms, those who reported that they were either living with partners, divorced or separated (68% less, 95%CI, 0.03-3.86), and 24% less, 95%CI, 0.14-4.01) for those who were self-employed, than those who reported that they did not use condoms, those who were never married, and those who were unemployed.

4.5 Multivariate logistic regression

After adjusting for age and all the sociodemographic variables we still did not find any significant associations between early sexual debut and sociodemographic characteristics, other unhealthy behaviours and STIs of the adolescents participating in current research.

However, the odds of early sexual debut among adolescents in Chipata community and those who had an abortion before became lower (i.e., 29% lower, 95%CI, 0.14-3.45 and 22% lower, 95%CI, 0.07-11.41, respectively) than those of adolescents in the Kanyama community and those who never had an abortion before,

The odds of early sexual debut in adolescents who reported that they used condoms, those whose education level was primary school, those who were married, those who reported that they had STIs before and those who reported use of alcohol or illicit drugs became higher (i.e. 47% higher, 95%CI, 0.31-6.96, 206% higher, 95%CI,0.21-20.44, 55% higher, 95%CI, 0.14-17.65), 283% higher, 95%CI, 0.30-26.67 and 75% higher, 95%CI, 0.16-19.09, respectively) when compared to

those who said they did not use condoms, those with no form of education, those who were never married, those who never had STIs before, and those that did not use alcohol or drugs.

The software omitted other levels of education, the last category of marital status, sex and employment status from the analysis.

Table 7: Assessing the relationship between early sexual debut and socio-demographic characteristics, other unhealthy behaviours and sexually transmitted infections

Characteristics	Unadjusted Odds ratio (95% confidence interval)	P-value	Adjusted Odds ratio	P-value
Community				
Kanyama	1	0.937	1	0.675
Chipata	1.05 (0.34-3.23)		0.71 (0.14-3.45)	
Sex				
Male	1	0.642	omitted	-
Female	1.32 (0.40-4.33)			
Condom use				
No	1	0.835	1	0.626
Yes	0.88 (0.27-2.86)		1.47 (0.31-6.96)	
Education level				
Never been to school	1		1	
Primary	4.33 (0.53-35.14)	0.170	2.06 (0.21-20.44)	0.536
Secondary/Tertiary	-		-	
Marital status				
Never been married	1		1	
Married	1.95 (0.23-16.36)	0.546	1.55 (0.14-17.65)	0.725
Living together/Divorced/Separated	0.32 (0.03-3.86)		-	
Had an abortion before				
No	1		1	
Yes	1.73 (0.20-15.24)	0.624	0.88 (0.07-11.41)	0.921
N/A	-		-	
Had STI before				
No	1	0.152	1	0.363
Yes	4.60 (0.57-37.15)		2.83 (0.30-26.67)	
Alcohol and Drug use				
No	1	0.840	1	0.645
Yes	1.76 (0.36-8.55)		1.75 (0.16-19.09)	
Employment status				
No employment at all	1		-	-
Employed	1.02 (0.11-9.27)	0.503	-	-
Self-employed	0.76 (0.14-4.01)		-	-

*males since pregnancy / abortion do not apply to them; STI= Sexually Transmitted Infections

Table 8 below shows univariate logistic regression and multivariable logistic regression adjusting for all variables.

Univariate logistic regression

Again, we could not find any significant associations between unprotected sexual activities and sociodemographic characteristics, other unhealthy behaviours and STIs of the adolescents participating in the current research.

However, it is important to note that despite no significant associations observed, the odds of engagement in unprotected sex in adolescents in Chipata community, in adolescents that had some form of education, those who were married or cohabiting, those who had abortion before, and those who were employed/self-employed were lower compared to those of adolescent in Kanyama community, those who never been to school before, never married or had no abortion, and those had no form of employment.

Moreover, the odds of engagement in unprotected sex in adolescents who were females, engaging in general sexual activities, had STIs before, abused alcohol or substance, on the other hand, were higher than those of males, those who did not engage in general sexual activities, had no STIs before and did not abuse alcohol or substances.

Multivariate logistic regression

The odds outcomes observed in the univariate logistic regression remained even after adjusting for the confounding effects of age and all the sociodemographic characteristics, other unhealthy behaviours, and STI outcomes. The exception was with adolescents who were self-employed, where being self-employed increased the likelihood of engaging in unprotected sex by 10 folds, but the p-value remained to be above 0.05.

Table 8: Assessing the relationship between unprotected sex (no condom use) and socio-demographic characteristics, other unhealthy behaviours and sexually transmitted infections

Characteristics	Unadjusted Odds ratio (95% confidence interval)	P-value^	Adjusted Odds ratio	P-value^
Community				
Kanyama	1	0.584	1	0.793
Chipata	0.81 (0.38-1.72)		0.87 (0.32-2.39)	
Sex				
Male	1	0.111	-	-
Female	2.00 (0.85-4.67)			
Engage in sex				
No	1	0.715	1	0.747
Yes	1.24 (0.39-3.89)		1.29 (0.27-6.13)	
Education level				
Never been to school	1		1	
Primary	0.30 (0.04-2.13)	0.465	0.35 (0.03-4.04)	0.515
Secondary/Tertiary	0.42 (0.07-2.62)		0.71 (0.08-6.35)	
Marital status				
Never been married	1		1	
Married	0.71 (0.20-2.45)		0.54 (0.11-2.68)	0.746
Living		0.851		
together/Divorced/Separated	0.79 (0.07-9.06)		0.57 (0.01-35.14)	
Aborted before				
No	1		1	
Yes	0.55 (0.15-1.96)	0.354	0.35 (0.07-1.67)	0.188
Had STI before				
No	1	0.200	1	0.253
Yes	1.77 (0.74-4.22)		1.97 (0.62-6.30)	
Alcohol and Drug use				
No	1	0.919	1	0.588
Yes	1.05 (0.43-2.57)		1.42 (0.40-5.03)	
Employment status				
No employment at all	1	0.665	1	
Employed	0.26 (0.03-2.25)		0.33 (0.02-4.91)	0.273
Self-employed	0.89 (0.24-3.27)		10.06 (0.55-183.96)	

*males since pregnancy / abortion do not apply to them; STI= Sexually Transmitted Infections

Table 9 below outlines the outcomes of an open-ended question we used to further explore factors related to engaging in both general sexual activities and early sexual debut among the group of adolescents who participated in the current research. When probed, the majority of adolescents from Kanyama community (42% and 35%) reported that they engaged in sexual activities and had early sexual debut, respectively because their partners demanded them. The adolescents in Chipata community on the other hand (40% and 38%) reported the major driving force for engaging in sexual activities in general and engaging in early sexual debut, respectively was to have fun.

It is also important to note that when looking at those adolescents who reported that they were forced to engage in these sexual activities (i.e., engaging in general sex and early sexual debut), more adolescents (14% and 16%) were from Kanyama community. Finally, peer pressure in these 2 communities also contributed significantly to adolescents engaging in all forms of sexual activities. For instance, almost a quarter of the adolescents in both communities reported being pushed to engaging in sexual intercourse in general and early sex debut by peer pressure.

Table 9: Outcomes of open-ended data explaining factors associated with sexual debut in general and early sexual debut

Theme	Sexual debut in general (Total number of adolescents = 119) (N[%])				Early sexual debut* (Total number of adolescents = 102) (N[%])			
	Kanyama		Chipata		Kanyama		Chipata	
	Engaged in sex (N=50)	Chose not to disclose (N=10)	Engaged in sex (N=52)	Chose not to disclose (N=7)	Early sexual debut (N=43)	Late sexual debut (N=7)	Early sexual debut (N=45)	Late sexual debut (N=7)
For fun	12 (24.0)	2 (20.0)	21 (40.4)	1 (14.3)	11 (25.6)	1 (14.3)	17 (37.8)	4 (57.1)
I was forced	7 (14.0)	0	2 (3.9)	2 (28.6)	7 (16.3)	0	2 (4.4)	0
Peer pressure	10 (20.0)	5 (50.0)	12 (23.1)	0	10 (23.3)	0	12 (26.7)	0
My partner demanded	21 (42.0)	2 (20.0)	17 (32.7)	2 (28.6)	15 (34.9)	6 (85.7)	14 (31.1)	3 (42.7)
Other	0	1 (10.0)	0	2 (28.6)	0	0	0	0

*Early sexual debut: first sexual encounter/sex initiation before the age of 18 years

CHAPTER FIVE
DISCUSSIONS

5.0 Introduction

In this chapter the key findings of this study in relation to the objectives are discussed. The findings are then compared to the outcomes of similar studies found globally. Moreover, in this chapter we highlight the gaps in literature, those that are bridged by the current findings, and those that still need to be bridged by future research.

Some of the key findings of note that are discussed in this chapter are as follows: i) Overall, 86% of the adolescents who participated in the current study engaged in general sexual activities. Of these, 88% and 38% had their first sexual encounter before the age of 18 years and had unprotected sex during their last sexual intercourse, respectively. ii) Significantly, more females than males engaged in general sexual practices, and 13% of these females reported that they had an abortion before. Moreover, of the male and female adolescents who engaged in sexual activities, 8% and 24% reported that they were HIV positive and had STIs before, respectively. iii) We also learned that a substantial number of adolescents (>30%) who had their first sexual encounter before the age of 18 years engaged in sexual activities to have fun or because their partners demanded sex. Finally, the only factor that significantly associated with engagement in sexual activities was self-employment. In this case, being self-employed tended to reduce the likelihood of adolescents engaging in general sexual debut by 75%. However, this significant likelihood disappeared after the confounding effects of age and all the factors were removed.

5.1 Sexual behaviours of adolescents in Kanyama and Chipata communities by socio-demographic characteristics

In the current study, like in other regional studies (Rositch *et al*., 2012; Mwangi *et al*., 2018) we noted that only a few adolescents had obtained tertiary education. These findings are of concern,

given the available evidence that suggests that the high school curriculum in most countries does not cover healthy sexual behaviour topics (Sawsan et al., 2004). As such, only individuals who progress to tertiary education have the privilege to learn about this kind of health education. There is a need therefore to keep children at school so that they may benefit from sexual related education that is offered at tertiary education.

Even though the majority of the adolescents included in this research completed matric, a substantial number reported to have no form of employment and were never been married before. In fact, in the current research we also found out that the majority of adolescents who had less education and those who did not have any form of employment engaged in general sex and / or had early sex debut compared to their peers who were more educated and employed / self-employed. Most importantly, similar to the findings of Aboki, Folayan, Daniel, and Ogunlayi (2014) we also observed that there is a strong and significant relationship between employment status and sexual debut in general, such that adolescents who were self-employed were 75% less likely to engage in general sexual debut. In Aboki, Folayan, Daniel, and Ogunlayi (2014) study, unequal power dynamics were also featured, where those adolescents who had less education and economic freedom seemed to be overpowered by their more educated and / or affluent partners to engage in unintended and unprotected sexual intercourse. The findings of the current study were also in line with those of the study that was conducted among secondary student in Kinondoni by Ketenbury (2009). In this study it was observed that low socioeconomic status is one of the major influencers of early sex debut. In fact, according to Chen *et al*. (2013), adolescents who are growing up in disadvantaged economic, familial and social circumstances are more likely to engage in early sexual practice than those who are in economically stable families. In Nigeria it has also been shown that lack of work opportunities and unavailability of decent jobs for

adolescents contributes to adolescent pregnancies (Amoran, 2012). Moreover, there is evidence that suggest jobless adolescents to be compelled to be in unintended marriages and engage in early and transactional sexual activities to improve their disadvantaged circumstances (Harding, 2003). A qualitative study by Ankomah et al. (2011) that was conducted in Nigeria on the other hand, showed that street trading and hawking goods in neighborhoods exposes adolescent girls to sex, who often end up having unwanted pregnancies. Stephenson et al., (2014) have also shown that an increase in economic freedom of adolescents through securing decent employment prevents them from engaging in early sex. However, it is also important to note the paradox shown in the same study of Stephenson et al., (2014) that suggests that when adolescents' employment status increases, they become exposed and interested in unwarranted sexual activities.

In the current study we also observed gender differences in terms of early sex debut, such that more females than males engaged in general and early sexual activities, with the majority of these adolescents suggesting that they are forced by partners to have sex, or the engage in sexual activities to have fun. Albert (2012) had previously showed these gender differences in Zambia, also highlighting social pressures including parents preferring their children to engage in sex early. Of concern is that the absence of support from the parents motivates adolescents to find support from unreliable sources. This may ultimately lead them to engage in early and risky sexual behaviours in return for gifts or assistance received from those sources (Ahikire, 2011). Moreover, in a longitudinal study conducted at the University of North Carolina (Zeto and Stacy, 2016), it has been shown that maternal dating and parental control and permissive attitudes towards teenage sex are the main predictors of early sexual debut among adolescent girls.

Other findings on peer pressure and risky sexual behaviours include those of Peçi (2017), where he reported that adolescences are more likely to have sex if friends and peers in their network are

mature, abuse drugs, have a more positive attitude towards childbearing and have liberal values about sex. In addition, a study conducted in Ghana reported that the adolescents' relationships with antisocial peers increase early sexual debut (Bingenheimer et al., 2015). In this study, having more friends also positively associated with multiple new sexual partners. We also acknowledge that other factors that might have fueled risky sexual behaviours in our group of adolescents could be the fact that the majority of the adolescents were unemployed and not attending any form of tertiary education, as such they might have had lots of time at their disposal and became bored, thus they used sex as a form of having fun.

5,2 **Outcomes of condom use among adolescents in Kanyama and Chipata communities**

While a high prevalence of adolescents participating in the current research started engaging in sex before they were adults, and had more than 1 sexual partners, it was reassuring that the majority of these adolescents (62%) reported that they practiced safe sex (use condoms) and were supported by their community health workers and health scare services in these healthy behaviours. While this prevalence of condom use is higher than the prevalence of 47% observed in South Africa (Logie et al., 2019); it seems to be lower than the prevalence of about 78% and 76% observed in studies conducted in other LMIC such as Colombia (Morales *et al*., 2018) and Cameroon (Tarkang, 2014), respectively. A study by Pick de Weiss *et al.* (1993) conducted in Mexico, also found that "condom use by adolescents and young adults is rather low as it ranges from 10 to 66%". Existing evidence suggests condom by adolescents could be leveraged by the ongoing rigorous HIV/AIDs interventions that are directed at halting this disease in respective countries (Ajide and Balogun, 2018). In fact, in Zambia these kind of interventions in communities are scarce. The only available interventions are imparted at healthcare facility level. Only adolescents who visit these healthcare centres and those that are comfortable to access these services benefit from these interventions. According to the findings of the current study, it was encouraging to

learn that the majority of adolescents were not embarrassed visiting their health centers, they felt welcomed at their local healthcare centres, and were comfortable talking about sex with their health service providers.

On the other hand, the concerning outcomes of unprotected sex and exploitive sexual practices such as experiences of being forced to have sex in the current study are corroborated by those of Ssewanyana *et al*. (2018) and Embleton *et al*. (2017) conducted on Kenyan adolescents in both rural and urban-poor settings. In these studies, it is further suggested that adolescents are coerced to have transactional sex and they often involve themselves in risky sexual activities under the influence of drugs. It becomes important therefore that the Zambian policy makers endorse, and support interventions directed at mitigating these non-desirable health threatening life problems and risky sexual behaviours, if they are to improve the sexual health status of youth in the country. While the behaviours of alcohol consumption and the use of drugs before sexual intercourse observed in the current study are not new social practices as they have been shown in other similar international studies (Imaledo, Peter-kio and Asuguo, 2012; Ndubisi, 2011); we are especially concerned that 1 in 10 of the female adolescents participating in the current study reported that they had an abortion before, with 10% and 22% having contracted HIV and STIs, respectively. In fact, this is the first time such behaviours are noted in Zambia. There are also substantiated international evidence that suggests adolescent who are alcohol and drug users to have notable ill health because of their damaging sexual behaviours (Jess, 1991; Mott and Heurin, 1988; Weinberg et al., 1998; Zeto and Stacy, 2016).

5.3 **Outcomes of early sex initiation and other risky sexual practices among adolescents in Kanyama and Chipata communities**

As we had already indicated in section 5.1 above that the only noteworthy factor that was significantly associated with engagement in general sexual activities among our group of adolescents was the employment status. In fact, we had argued with the help of available literature that increased education is associated with financial freedom, and both these factors reduce the likelihood of engagement in any form of sexual activity among adolescents.

However, we acknowledge our findings that none of the other socio-demographic factors we investigated showed an association with both general, early and unprotected sexual activities. This has been the case even after removing the confounding effects of most of the socio-demographic factors. These outcomes are in total contrast to the outcomes of similar studies where the is shown to be among the important indicators for unprotected sex. Moreover, Nyanzi *et al*. (2001) have long shown that initiating sex at a young age is positively associated with increased lifetime number of sexual partners and consequently increases chances of getting infected with HIV and other STIs. We also could relate our insignificant outcomes to the difficulty in recalling age of first sexual intercourse by our older adolescents and lack of appropriate use of survival analyses techniques for the ages of participants and time for sexual debut (Zuma *et al*., 2010).

5.4 **Conclusions**

The outcomes of the current study suggest that a large majority of Zambian adolescents engage in early sexual debut, and a significant proportion practise unprotected sex and have STIs. The fact that most adolescents reported that they are either forced by their partners to have sex or use sex to have fun calls for an urgent attention. Policy makers therefore should urgently endorse policies and strategies to curb risky sexual practices among Zambian adolescents. Among these strategies should be those that are aimed at increasing awareness about the importance of using condoms and

postponing having sex until adulthood when the highest level of education has been achieved, as this increases chances for individuals to secure financial freedom.

CHAPTER SIX
LIMITATIONS AND RECOMMENDATIONS

6.0 Introduction

This chapter first outlines the limitations of the current study. The recommendations to curb early sexual debut and risky sexual practices are then derived from synthesizing the key findings and limitations. A process of prioritization is then used to narrow down important findings. Finally, we propose some interventions that are needed to curb / improve unhealthy / risky sexual behaviours.

6.1 **Study limitation**

While the current study has many strengths, it also has some limitations that need to be considered. For instance, we acknowledge that the current study was done in only 2 communities, so its outcomes can be generalized to communities with similar characteristics as these communities not to the entire Zambian nation. Selecting only the predetermined communities might have resulted in the inclusion of participants with similar characteristics and those that shared the same values, while depriving us of the diversity of responses that we might have received. Hence, we must acknowledge the fact that there might be other important predictors of early sexual debut that were not investigated in the current study due to time and financial constraints. These include lack of parental or guardian attachment, as well as family characteristics including the absence of one or all parents. These factors have been proven by many researchers including Peltzer and Pengpid (2015), Yode and Legrand (2014), and Pilgrim et al. (2014) to drive risky sexual behaviours in both genders of adolescents. In fact, Ugoji (2014) and Silva et al. (2016)'s outcomes showed that living with both mother and father protects adolescents from engaging in unsafe sex, while being the youngest in the family likely exposes individuals to mentorship from older siblings, hence a last born is less likely to involve in early sexual activities. With all this said, it is therefore

important that further research be done in the future to capture these outcomes. sample drawn from 2 communities namely Kanyama and Chipata and the findings of the study will therefore be valid for that specific context only these communities were selected because they were convenient area for the study.

Another limitation is that, due to the sensitivity of the topic, participants may have withheld information that could possibly influence the outcome of the study. However, we made sure that we could overcome this by pretesting our research instrument to make sure that it is able to capture the information we needed before administering it to our communities. We also made sure that we conducted the interview in comfortable spaces and assure that the participants that we would not share the information with third parties.

Moreover, recall bias may have not been escaped especially when participants were asked about the age of their first sexual encounter. However, to reduce recall bias we made sure that we included only adolescents, who still have the chance of recalling the sexual activities they had in the few past years.

Finally, we acknowledge that the reason for not getting any significant associations was partly due to our small sample size. In fact, it is important to note that because of the lack of similar studies in Zambia, we resorted to using the prevalence of 15 to 19 year olds in Lusaka getting pregnant as a proxy to calculate the sample size needed to investigate risky sexual practices among our adolescents. For this reason, we propose other similar studies to be conducted in this country as our sample was based on imputed power obtained from a different population that may have different characteristics than our Zambian adolescents.

6.2 **Recommendation**

In consideration of the study findings, we suggest recommendations for policy reforms, practice and further research.

Training prospects to empower parents, community stakeholders and churches are essential. Parents play a major role in molding their children's sexual behaviours. For instance, support of parents by health professionals could assist them to attach value to providing sex education to their children. Preaching decent values, the use of contraception may delay the onset of intercourse and reduce the frequency of intercourse, promote safer sexual behaviour, reduce unwanted pregnancies, and the HIV/AIDS and STIs epidemic among youth in the country.

Recommendation for policy

The most important outcome of the current study is that, early sexual debut and sustained risky sexual activities among adolescents are rife. These behaviours put the adolescents at risk of irreversible health consequences such as HIV/AIDS. Moreover, among women who practice unprotected sex, teenage pregnancy is most probable. It is important therefore that there is a reproductive health policy in Zambia that endorses and enforces that sex education be included in the primary and secondary school curriculum. Woog and Kagesten (2017) have argued that early adolescence presents an opportune time to introduce comprehensive sex education, as intervening early affords children an opportunity to learn about sexuality and health. The Ministry of Health, Ministry of Education and other relevant stakeholders should therefore endorse such a school-based curriculum, to curb the problems of risky sexual activities among adolescents in Zambia.

Adolescent sexual and reproductive health training should be one of the core training objectives for primary and post-primary teachers training education. This will help not only to reduce the

knowledge gap among the teachers but also trigger the interest of teachers to skillfully handle the current sexual and reproductive health challenges among adolescents.

6.3.2. **Recommendation for practice**

Programming of adolescent sexual and reproductive health intervention in schools should primarily focus on increasing the awareness of risk and consolidating sexual self-efficacy to directly reduce risky sexual behavior. Screening for risky sexual behavior should be regularly done at family level, school and health facilities to inform appropriate delivery of sexual and reproductive health information and case-specific intervention.

At the community level, the MOH and MOE should develop a structured engagement platform for the parents/caregivers to facilitate their involvement in modelling the sexual behavior of the adolescents.

Finally, there need for sustained dissemination, awareness, and advocacy at various levels on the high prevalence risky sexual behavior and teenage pregnancy to influence resource mobilization and allocation of toward adolescent sexual and reproductive health interventions.

6.3.3. **Recommendation for Further research**

The study suggests further research on:

1. National occurrence of unsafe sexual behavior and associated factors
2. Trail analysis of factors related to unsafe sexual behavior.
3. A long-term reasonable interventional study on the effects of school-based sexual risk avoidance education and school-based all-inclusive sex education and sexual behavior.
4. Evaluation of current policies and rules on young people sexual and reproductive health.

REFERENCES

Adaramaja, S.R., Onsanya, S., and Nnbueze, U. (2010). Gender as a determinant of individual lifestyle for sustainable development in Africa. Research Journal of Applied Sciences, 5, 27-31

Ahanhanzo, Y.G., Sossa-Jérôme, C., Sopoh, G., Tchandana, M., Azandjèmè, C. and Tchamdja, T., (2018). *"Factors associated with early sexual intercourse among teenagers and young adults in rural south of Benin".* Journal of public health in Africa, 9(2).

Austrian, K., Soler-Hampejsek, E., Duby, Z. and Hewett, P.C., (2019). *"When he asks for sex, you will never refuse": transactional sex and adolescent pregnancy in Zambia.* Studies in Family Planning, 50(3), pp.243-256.

Barua, A. and Kurz, K., (2001). Reproductive health-seeking by married adolescent girls in Maharashtra, India. Reproductive health matters, 9(17), pp.53-62.

Biddlecom, A., K. Awusabo-Asare, et al. (2009). *"Role of parents in adolescent sexual activity and contraceptive use in four African countries*." International perspectives on sexual and reproductive health: 72-81.

Bingenheimer, J.B., Asante, E. and Ahiadeke, C., (2015). "*Peer influences on sexual activity among adolescents in Ghana"*. Studies in family planning, 46(1), pp.1-19.

Cavanagh, S.E., (2004). *"The sexual debut of girls in early adolescence: The intersection of race, pubertal timing, and friendship group characteristics"*. Journal of Research on Adolescence, 14(3), pp.285-312.

Central Statistical Agency (CSA) [Ethiopia] and ICF. Ethiopia Demographic and Health Survey (2016). Addis Ababa, Ethiopia, and Rockville, Maryland, USA: CSA and ICF.

Chatterji, M., Murray, N., London, D. and Anglewicz, P., (2005). *"The factors influencing transactional sex among young men and women in 12 Sub-Saharan African countries"*. Social biology, 52(1-2), pp.56-72.

Davis, R. et al. (2015) Theories of behaviour and behaviour change across the social and behavioural sciences: a scoping review. Health Psychol Rev 9(3), pp.322–344.

Dimbuene ZT, Emina JB, Sankoh O (2014). *"UNAIDS 'multiple sexual partners' core indicator: promoting sexual networks to reduce potential biases"*. Global Health Action. 7 (1): 23103. doi:10.3402/gha. v7.23103. PMC 3955766. PMID 24647127.

Glover, E.K., Bannerman, A., and Wells Pence, B. (2003) "*Sexual health experiences of adolescents in three Ghanaian towns*." International Family Planning Perspectives, 29(1), pp.32-40.

Government of Republic of Zambia (2017) "*Zambia National HIV and AIDS Strategic Framework (NASF)"*.

Harding, D.J., (2003). Counterfactual models of neighborhood effects: The effect of neighborhood poverty on dropping out and teenage pregnancy. American journal of Sociology, 109(3), pp.676-719.

Heale, R. and Twycross, A., (2015). *Validity and reliability in quantitative studies*. Evidence-based nursing, 18(3), pp.66-67.

Hegdahl, H.K., Musonda, P., Svanemyr, J., Zulu, J.M., Grønvik, T., Jacobs, C. and Sandøy, I.F., (2022). *Effects of economic support, comprehensive sexuality education and community dialogue on sexual behaviour: Findings from a cluster-RCT among adolescent girls in rural Zambia*. Social Science & Medicine, 306, p.115125.

Jessor, R. (1991). *Risk behaviour in adolescence: a psychosocial framework for understanding and action.* Journal of Adolescent Health, 12:597-605

Kaplan, D. L., E. J. Jones, et al. (2013*). "Early age of first sex and health risk in an urban adolescent population."* Journal of School Health 83(5): 350-356.

Kelly, K. and Ntlabati, P., (2002). *"Early adolescent sex in South Africa: HIV intervention challenges"*. Social Dynamics, 28(1), pp.42-63.

Kimberlin, C. L. and Winterstein, A. G. (2008) *'Validity and reliability of measurement instruments used in research*', American Journal of Health-System Pharmacy. Narnia, 65(23), pp. 2276–2284. doi: 10.2146/ajhp070364.

Lee, R. L. T., A. Yuen Loke, et al. (2018). "A systematic review on identifying risk factors associated with early sexual debut and coerced sex among adolescents and young people in communities." Journal of clinical nursing 27(3-4): 478-501.

Lohman, B.J. and Billings, A., (2008). *"Protective and risk factors associated with adolescent boys' early sexual debut and risky sexual behaviors"*. Journal of Youth and Adolescence, 37(6), p.723.

Marston, M., Beguy, D., Kabiru, C. and Cleland, J., (2013). *"Predictors of sexual debut among young adolescents in Nairobi's informal settlements."* International perspectives on sexual and reproductive health, 39(1), p.22.

Mathews, C., Aarø, L.E., Flisher, A.J., Mukoma, W., Wubs, A.G. and Schaalma, H., (2008). *"Predictors of early first sexual intercourse among adolescents in Cape Town, South Africa".* Health education research, 24(1), pp.1-10.

Morris, J.L. and Rushwan, H., (2015*). "Adolescent sexual and reproductive health: The global challenges"*. International Journal of Gynecology & Obstetrics, 131, pp.S40-S42.

Mott, F.L., and Haurin, R.J. (1988). *Linkages between sexual activity and alcohol and drug use among American adolescents*. Family Planning Perspectives, 20: 128-136.

Newbern, E. C., G. L. Anschuetz, et al. (2013). "Adolescent sexually transmitted infections and risk for subsequent HIV." American journal of public health 103(10): 1874-1881.

O'Donnell L, Myint-U A, O'Donnel CR, and Stueve A (2003). *Long-term influence of sexual norms and attitudes on timing of sexual initiation among urban minority youth*. The Journal of School Health;73(2):68-75.

Oljira, L., Berhane, Y. and Worku, A., (2012). *"Pre-marital sexual debut and its associated factors among in-school adolescents in eastern Ethiopia".* BMC public health, 12(1), p.375.

Oluwatoyin, F. E., and Modupe O, O. (2014). *Risky Sexual Behaviour among Secondary School Adolescents in Ibadan North Local Government Area, Nigeria*. IOSR Journal of Nursing and Health Science, 3(3), 34–44. https://doi.org/10.9790/1959-03343444

Onwasigwe, C. (2014). *Factors Influencing Sexual Behavior among Female Adolescents in Onitsha, Nigeria*. Open Journal of Obstetrics and Gynecology, 04(16), 987–995. https://doi.org/10.4236/ojog.2014.416139

Owolabi AT, Onayade AA, Ogunlola IO, Ogunniyi SO, and Kuti O (2005). *Sexual behaviour of secondary school adolescents in Ilesa, Nigeria: implications for the spread of STIs including HIV/AIDS*. Journal of Obstetrics and Gynaecology;25(2):174-8.

Palmer, M. J., Clarke, L., Ploubidis, G. B., Mercer, C. H., Gibson, L. J., Johnson, A. M., and Wellings, K. (2017). *Is "Sexual Competence" at First Heterosexual Intercourse Associated with Subsequent Sexual Health Status*? Journal of Sex Research, 54(1), 91–104. https://doi.org/10.1080/00224499.2015.1134424

Peltzer, K., (2010). *"Early sexual debut and associated factors among in-school adolescents in eight African countries*)". Acta Paediatrica, 99(8), pp.1242-1247.

Peltzer, K., and Pengpid, S. (2015). *Early Sexual Debut and Associated Factors among In-school Adolescents in Six Caribbean Countries*. West Indian Medical Journal, 64(4). https://doi.org/10.7727/wimj.2014.025

Pilgrim, N. A., Ahmed, S., Gray, R. H., Sekasanvu, J., Lutalo, T., Nalugoda, F., and Wawer, M. J. (2014). *Family structure effects on early sexual debut among adolescent girls in Rakai, Uganda*. Vulnerable Children and Youth Studies, 9(3), 193–205. https://doi.org/10.1080/17450128.2013.842027

Sedgh, G., L. B. Finer, et al. (2015). "Adolescent pregnancy, birth, and abortion rates across countries: levels and recent trends." Journal of Adolescent Health 56(2): 223-230

Setia, M.S., (2016). *Methodology series module 3*: Cross-sectional studies. Indian journal of dermatology, 61(3), p.261.

Setia, M.S., (2016). *Methodology series module 3*: Cross-sectional studies. Indian journal of dermatology, 61(3), p.261.

Siziya, S., Muula, A.S., Kazembe, L.N. and Rudatsikira, E., (2008). *"Harmful lifestyles' clustering among sexually active in-school adolescents in Zambia"*. BMC pediatrics, 8(1), p.6.

Stephenson, R., C. Simon, et al. (2014). *"Community factors shaping early age at first sex among adolescents in Burkina Faso, Ghana, Malawi, and Uganda."* Journal of health, population, and nutrition 32(2): 161.

Tarkang, E. E. (2014). *Factors associated with perception of risk of contracting HIV among secondary school female learners in Mbonge subdivision of rural Cameroon*. Pan African Medical Journal, 17, 1–9.

Trajman A, Belo MT, Teixeira EG, Dantas VCS, Salomão FM, and Cunha AJLA (2003). *Knowledge about STD/AIDS and sexual behavior among high school students in Rio de Janeiro, Brazil*. Cad. Sáude Pública;19(1):127-33.

Twycross, A. and Shields, L., (2004). *Validity and reliability-What's it all about? Part 2 Reliability in quantitative studies.* Paediatric Nursing, 16(10), p.36.

Ugoji, F. N. (2014). *Determinants of risky sexual behaviours among secondary school students in Delta State Nigeria*. International Journal of Adolescence and Youth, Vol. 19, pp. 408–418. https://doi.org/10.1080/02673843.2012.751040

UNFPA (2013). Adolescent pregnancy: A review of the evidence. New York.

UNFPA (2015). Girlhood, not motherhood: Preventing adolescent pregnancy. New York.

WHO (2006). *"Pregnant adolescents: delivering on global promises of hope. World Health Organization."* Written and produced for WHO by Peter McIntyre, Oxford, UK. Zambia Demographic and Health Survey (2013-14).

WHO (2014). *"Maternal, newborn, child and adolescent health. Adolescent pregnancy"*. http://www.who.int/maternal_child_adolescent/topics/maternal/adolescent_pregnancy/en/, Accessed September 10, 2019/

WHO (2018) Adolescent pregnancy Home/Newsroom/Fact sheets/Detail/Adolescent pregnancy.

WHO (2021) *Adolescent health, World Health Organization*. Available at: https://www.who.int/health-topics/adolescent-health#tab=tab_1 (Accessed: 25 October 2021).

Zeto, R. C., and Stacy, D. C. (2016). *Family Structure, Maternal Dating, and Sexual Debut: Extending the Conceptualization of Instability*. Journal of Youth and Adolescence, 45(5), 1003–1019.

Appendix 1: Approval from The University of Western Cape

UNIVERSITY of the WESTERN CAPE

60 YEARS of hope, action & knowledge

29 March 2021

Ms CR Phiri
School of Public Health
Faculty of Community and Health Sciences

Ethics Reference Number: BM20/10/23

Project Title: Early Sex Debut and Safer Sex Practices among Adolescents aged 15-19 years in Kanyama and Chipata Communities in Lusaka, Zambia.

Approval Period: 19 March 2021 – 19 March 2024

I hereby certify that the Biomedical Science Research Ethics Committee of the University of the Western Cape approved the scientific methodology and ethics of the above mentioned research project.

Any amendments, extension or other modifications to the protocol must be submitted to the Ethics Committee for approval.

Please remember to submit a progress report annually by 30 November for the duration of the project.

Permission to conduct the study must be submitted to BMREC for record-keeping.

The Committee must be informed of any serious adverse event and/or termination of the study.

Ms Patricia Josias
Research Ethics Committee Officer
University of the Western Cape

NHREC Registration Number: BMREC-130416-850

Director: Research Development
University of the Western Cape
Private Bag X 17
Bellville 7535
Republic of South Africa
Tel: +27 21 959 4111
Email: research-ethics@uwc.ac.za

FROM HOPE TO ACTION THROUGH KNOWLEDGE.

Appendix 2: Approval from Eres Converge

Plot No. 1, Cor Joseph Mwilwa & Great East Road
Rhodes Park, Lusaka - Zambia
Tel: +260 955 155 633
+260 955 155 634
Cell: +260 977 493220
Email: erescovergeltd@gmail.com

I.R.B. No. 00005948
F.W.A. No. 00011697

14th may, 2021.

Ref. No. 2021- April- 014

The Principal Investigator
Ms. Comfort.R. Phiri
Lusaka, ZAMBIA.

Dear MS. Phiri

RE: EARLY SEX DEBUT AND SAFER SEX PRACTICES AMONG ADOLESCENTS 15-19 YEARS IN KANYAMA AND CHIPATA COMMUNITIES LUSAKA, ZAMBIA.

Reference is made to your protocol resubmission. The IRB resolved to approve this study and your participation as Principal Investigator for a period of one year.

Review Type	**Fast Track**	Approval No. **2021-Mar- 003**
Approval and Expiry Date	Approval Date: 14th May, 2021	Expiry Date: 13th May, 2022
Protocol Version and Date	Version - Nil.	13th May, 2022
Information Sheet, Consent Forms and Dates	• English.	13th May, 2022
Consent form ID and Date	Version - Nil	13th May, 2022
Recruitment Materials	Nil	13th May,2022
Other Study Documents	Questionnaire.	13th May, 2022
Number of participants approved for study	-	13th may, 2022

Specific conditions will apply to this approval. As Principal Investigator it is your responsibility to ensure that the contents of this letter are adhered to. If these are not adhered to, the approval may be suspended. Should the study be suspended, study sponsors and other regulatory authorities will be informed.

Conditions of Approval

- No participant may be involved in any study procedure prior to the study approval or after the expiration date.
- All unanticipated or Serious Adverse Events (SAEs) must be reported to the IRB within 5 days.
- All protocol modifications must be IRB approved prior to implementation unless they are intended to reduce risk (but must still be reported for approval). Modifications will include any change of investigator/s or site address.
- All protocol deviations must be reported to the IRB within 5 working days.
- All recruitment materials must be approved by the IRB prior to being used.
- Principal investigators are responsible for initiating Continuing Review proceedings. Documents must be received by the IRB at least 30 days before the expiry date. This is for the purpose of facilitating the review process. Any documents received less than 30 days before expiry will be labelled "late submissions" and will incur a penalty.
- Every 6 (six) months a progress report form supplied by ERES IRB must be filled in and submitted to us.
- A reprint of this letter shall be done at a fee.

Should you have any questions regarding anything indicated in this letter, please do not hesitate to get in touch with us at the above indicated address.

On behalf of ERES Converge IRB, we would like to wish you all the success as you carry out your study.

Yours faithfully,
ERES CONVERGE IRB

Dr. Jason Mwanza
Dip. Clin. Med. Sc., BA., M.Sc., PhD
CHAIRPERSON

Appendix 3: Approval from Ministry of Health, Lusaka District, Zambia

All correspondence should be addressed to the District Medical Officer

Tel: +260-211-235554
Fax: +260-211230429

In reply please quote
No:..... LDHO/

REPUBLIC OF ZAMBIA
MINISTRY OF HEALTH

LUSAKA DISTRICT HEALTH OFFICE
P.O. BOX 50827
LUSAKA

26th July, 2021.

Comfort Phiri (Ms)
University of the Western Cape
Private Bag X17
South Africa

Dear Ms. Phiri,

RE: AUTHORITY TO CONDUCT RESEARCH IN LUSAKA DISTRICT.

We are in receipt of your letter over the above subject.

Please be informed that Lusaka District Health Office has no objection for you to conduct research entitled **"Early sex debut and safer sex practices among adolescents 15-19 aged years in Kanyama and Chipata Communities Lusaka, Zambia".**

Kindly ensure that your findings are shared with the health facility and District Health Office and that the normal operations of the facility are not disrupted.

By copy of this letter, the Medical Superintendent and Public Health Specialist for Kanyama and Chipata Sub-Districts are kindly requested to facilitate accordingly.

Yours faithfully,

Dr. Agatha Lloyd
Public Health Specialist
For/District Health Director
LUSAKA DISTRICT HEALTH OFFICE

REPUBLIC OF ZAMBIA
MINISTRY OF HEALTH
LUSAKA DISTRICT HEALTH OFFICE
27 JUL 2021
PUBLIC HEALTH SPECIALIST
P. O. BOX 50827, LUSAKA-ZAMBIA

C.c:The Medical Superintendents – Kanyama and Chipata Sub-Districts, **LUSAKA DISTRICT**
C.c:The Public Health Specialists – Kanyama and Chipata Sub-Districts, **LUSAKA DISTRICT**

Appendix 4

UNIVERSITY OF THE WESTERN CAPE

Private Bag X 17, Bellville 7535, South Africa

Tel: +27 21-959 2809, Fax: 27 21-959 2872

E-mail: soph-comm@uwc.ac.za

PARTICIPANT INFORMATION SHEET

Project Title: **Early engaging in sexual activities and Safer Sex Practices among Adolescents aged 15-19 years in Kanyama and Chipata Communities in Lusaka, Zambia.**

What is this study about?

Comfort Rutty Phiri conducting this research is a student in South Africa at The University of the Western Cape pursuing a master's degree in Public Health.

We would like to talk to you about a sensitive and personal experience regarding your sex life. The research is intended to determine prevalence and extent of unsafe sexual behaviours as well as factors associated with early engaging in sexual activities among Zambian adolescents within the ages 15-18 years. This information will be used to outline the targeted interventions to prevent early engaging in sexual activities and improve sexual behaviours among adolescent in this community (Chipata or Kanyama) in Lusaka, Zambia.

You have been indiscriminately chosen and kindly being asked to take part in this research study because you are aged 15-18. Your opinions and experiences will be needed in ensuring that this research study achieve its intended purpose. More information about the study is given below kindly take time to read through carefully. Feel free to clarify anything that you may need clearness and take time to ask questions. You should understand clearly the research study and make a decision based on the informed mind.

Purpose of the research

This research study will assist in better understanding of adolescent sex life, challenges other factors associated with early sexual debut among adolescents in this community. This study will also endeavour to create awareness of the issues surrounding early engaging in sexual activities among adolescents in this community.

What should I expect if I agree to participate in this research study?

Like earlier mentioned that this study will require you to share your personal and sensitive issues and experiences of your life. If you agree to take part in this research study, you will be asked to respond to questions about your opinions and experiences of a sexually active adolescent. This talk will be held in a private environment, that it either at the local clinic, at youth centre or at youth friendly service point of delivery. The only person who could be allowed with your permission is a witness or interpreter in case you have difficulties reading or writing. You will be asked questions and the responses you will give will be recorded in the questionnaire. The whole interview is expected to take 45 to 60 minutes.

Confidentiality

To ensure confidentiality and anonymity, the questionnaires will not contain any personal information that may identify you like address or phone number. You will be assigned an identification code which only the research team will access and be able to link your responses your identity. Your name or any personal identifier will not be written on any part of the questionnaire except on the consent form where you will be expected to write your name. The consent form will be kept under lock and key to avoid access by none research individuals. We will not share any study records or notes with anyone outside of the research team. You may choose not to disclose your participation in this study if you choose to. Kindly note that the results of this study will be written for a group of adolescents and not for individual participants. All soft copy study information will be protected by a password on the computer.

What risks are involved?

This research study may make you feel uncomfortable to answer certain questions and you may be able to share some of your personal issues because of the sensitiveness of the study. In case you suffer any discomfort or psychological problem as a result of your participation in this study, where necessary we will refer you to an appropriate professional for further assessment, support and management.

What benefits are there in this research?

You will not be given any form of incentive for your participation in this study, but the outcome of this research will be used to improve delivery of adolescent health services. The outcome may also influence policy makers.

Can I withdraw my participation?

Your participation is absolutely voluntary and you may choose to leave the discussion at any time without giving your reasons to anyone. If you chose to withdraw your participation, there will be no negative impact on you or health services expected to be rendered.

Who should I contact in case I have further questions?

If you have any questions about the research study itself, please contact:

Comfort Rutty Phiri (Principle Investigator).

Zambart House,

P.O Box 5079,

Lusaka, Zambia.

Mobile number. +260978534037;

Email:comfortp66@gmail.com

Should you have any questions regarding this study and your rights as a research participant or if you wish to report any problems you have experienced related to the study, please contact:

Prof Uta Lehmann
Head of Department: School of Public Health
University of the Western Cape
Private Bag X17
Bellville 7535
ulehmann@uwc.ac.za

Prof Anthea Rhoda
Dean: Faculty of Community and Health Sciences
University of the Western Cape

Private Bag X17
Bellville 7535
chs-deansoffice@uwc.ac.za

This research has been approved by the University of the Western Cape's Biomedical Research Ethics Committee.

Biomedical Research Ethics Committee
University of the Western Cape
Private Bag X17
Bellville
7535
Tel: 021 959 4111
e-mail: research-ethics@uwc.ac.za

REFERENCE NUMBER…….

UNIVERSITY OF THE WESTERN CAPE

Private Bag X 17, Bellville 7535, South Africa

Tel: +27 21-959 2809, Fax: 27 21-959 2872

E-mail: soph-comm@uwc.ac.za

WOTHANDIZA KUDZIWA PEPALA

Mutu wa Phunziro Lofufuza: Kuyamba Kugonana Poyambirira komanso Kugonana Kwabwino pakati pa Achinyamata pa 15-19 wazaka ku Kanyama ndi Chipata midzi ku Lusaka, Zambia.

Kodi phunziroli ndi lotani?

Comfort Rutty Phiri yemwe akuchita kafukufukuyu ndi wophunzira ku South Africa ku University of the Western Cape akuchita digiri ya master mu Public Health.

Tikufuna kulankhula nanu za zochitika zanu zachinsinsi zokhudzana ndi kugonana kwanu. Kafukufukuyu cholinga chake ndi kudziwa kuchuluka kwa mikhalidwe yakugonana yomwe ili pachiwopsezo komanso zinthu zomwe zimakhudzana ndi kugonana koyambirira pakati pa achinyamata aku Zambia komanso achinyamata azaka zapakati pa 15-19. Izi zidzagwiritsidwa ntchito kufotokozera njira zomwe zatetezedwa kuti zisafike msanga pakugonana ndikuwongolera mchitidwe wogonana pakati pa achinyamata mdera lino (Chipata kapena Kanyama) ku Lusaka, Zambia.

Mwasankhidwa mosasankhidwa ndikufunsidwa mokoma mtima kutenga nawo mbali phunziroli chifukwa muli ndi zaka 15-19. Malingaliro anu ndi zokumana nazo zidzafunika pakuwonetsetsa kuti kafukufukuyu akukwaniritsa cholinga chake. Zambiri pazokhudza phunziroli zimaperekedwa pansipa mokoma mtima khalani ndi nthawi yowerenga mosamala. Khalani omasuka kufotokoza chilichonse chomwe mungafune kuwonekera ndikutenga nthawi yofunsa mafunso. Muyenera kumvetsetsa bwino kafukufukuyu ndikupanga chisankho kutengera malingaliro anu.

Cholinga cha kafukufukuyu

Kafukufukuyu athandizira kumvetsetsa bwino za moyo wogonana wachinyamata, zovuta zina zomwe zimakhudzana ndi kugonana koyambirira pakati pa achinyamata mdera lino.

Phunziro ili ayesetsanso kuti adziwitse ena za zovuta zoyambirira zogonana pakati pa achinyamata mdera lino.

Ndiyenera kuyembekezera chiyani ndikavomera kutenga nawo mbali mu kafukufukuyu?

Monga tanena kale kuti kafukufukuyu adzafunika kuti mugawane nawo zovuta zanu zachinsinsi komanso zokumana nazo pamoyo wanu. Ngati mukuvomera kutenga nawo mbali phunziroli, mudzafunsidwa kuti muyankhe mafunso okhudzana ndi malingaliro anu komanso zokumana nazo za wachinyamata wogonana. Nkhaniyi ichitikira m'malo achinsinsi, mwina kuchipatala chakwanuko, kuchipatala kapena pamalo operekera chithandizo chaubwana. Munthu yekhayo amene angaloledwe ndi chilolezo chanu ndi mboni kapena womasulira ngati mungavutike kuwerenga kapena kulemba. Mudzafunsidwa mafunso ndipo mayankho omwe mungapereke adzalembedwa mufunsoli. Ntchito yonse yoyankhulana ikuyenera kutenga mphindi 45 mpaka 60.

Chinsinsi

Kuti muwonetsetse kuti mukusunga chinsinsi komanso osadziwika, mafunso amafunsidwa sangakhale ndi chidziwitso chazomwe zingakuthandizeni kudziwa adilesi kapena nambala yafoni. Mudzapatsidwa kachidindo komwe ndi gulu lofufuza lokha lomwe lingapeze ndikutha kulumikiza mayankho anu kuti ndinu ndani. Dzina lanu kapena chizindikiritso chanu chilichonse sichidzalembedwa mbali iliyonse yamafunso kupatula fomu yovomerezera komwe mukuyenera kulemba dzina lanu. Fomu yovomerezekayo idzakhala yotsekedwa komanso kiyi yopewa kupezeka ndi anthu ofufuza. Sitidzagawana zolemba zilizonse zowerengera kapena zolemba ndi aliyense kunja kwa gulu lofufuzira. Mutha kusankha kuti musalembetse nawo gawo mukafukufukuyu ngati mungafune kutero. Chonde dziwani kuti zotsatira za kafukufukuyu zidzalembedwera gulu la achinyamata osati aliyense payekha. Zambiri zofufuza zofewa zidzatetezedwa ndi mawu achinsinsi pakompyuta.

Ndi zoopsa ziti zomwe zimakhalapo?

Kafukufukuyu angakupangitseni kukhala omasuka kuyankha mafunso ena ndipo mutha kugawana nawo zina mwazomwe mukudziwa chifukwa cha chidwi cha kafukufukuyu. Ngati mungakhale ndi vuto lililonse kapena kusokonezeka kwamaganizidwe chifukwa chotenga nawo gawo phunziroli, ngati kuli kofunikira tidzakutumizirani kwa katswiri woyenera kuti muwunikenso ndikuwongolera.

Kodi pali phindu lanji pakufufuza uku?

Simudzapatsidwa chilimbikitso chamtundu uliwonse kuti mutenge nawo mbali phunziroli, koma zotsatira za kafukufukuyu zidzagwiritsidwa ntchito pokweza ntchito zaumoyo wa achinyamata. Zotsatira zake zimathandizanso opanga mfundo.

Kodi ndingachotse nawo gawo?

Kutenga kwanu gawo ndikofunitsitsa ndipo mutha kusankha kusiya zokambiranazo nthawi ina iliyonse osapereka zifukwa zanu kwa aliyense. Ngati mwasankha kusiya kutenga nawo mbali, sipadzakhala vuto lililonse pa inu kapena ntchito zaumoyo zomwe zikuyembekezeka kuperekedwa.

Ndiyenera kulankhulana ndi ndani ndikakhala ndi mafunso enanso?

Ngati muli ndi mafunso okhudzana ndi kafukufukuyu, lemberani:

Comfort Rutty Phiri (Wamkulu Wofufuza).

Nyumba ya Zambart,

P.O Bokosi 5079,

Lusaka, Zambia

Nambala yafoni yam'manja. + 260978534037;

Imelo: comfortp66@gmail.com

Ngati mungakhale ndi mafunso okhudzana ndi kafukufukuyu komanso ufulu wanu wochita nawo kafukufukuyu kapena ngati mukufuna kufotokoza mavuto omwe mwakumana nawo okhudzana ndi kafukufukuyu, lemberani:

Pulofesa Uta Lehmann
Mutu wa Dipatimenti: Sukulu Yathanzi Labwino
Yunivesite ya Western Cape
Thumba Lapadera X17
Bellville 7535
ulehmann@uwc.ac.za

Pulofesa Anthea Rhoda
Dean: Gulu Lophunzitsa Zachikhalidwe ndi Zaumoyo
Yunivesite ya Western Cape
Thumba Lapadera X17

Bellville 7535

chs-deansoffice@uwc.ac.za

Kafukufukuyu wavomerezedwa ndi a University of the Western Cape's Biomedical Research Ethics Committee.

Komiti Yoyeserera Yoyeserera Yachilengedwe

Yunivesite ya Western Cape

Thumba Lapadera X17

Bellville

7535

Nambala: 021 959 4111

imelo: research-ethics@uwc.ac.za

Nambala Yowunikira: _____

Appendix 5

UNIVERSITY OF THE WESTERN CAPE

Private Bag X 17, Bellville 7535, South Africa

Tel: +27 21-959 2809, Fax: 27 21-959 2872

E-mail: soph-comm@uwc.ac.za

PARENTAL/GUARDIAN'S STATEMENT OF CONSENT FORM

(For adolescents under the age of 18 years who are participating in the study)

Title of Research Study: Early Sex Debut and Safer Sex Practices among Adolescents aged 15-19 years in Kanyama and Chipata Communities in Lusaka, Zambia.

I have been given sufficient time to consider whether the adolescent in my care can take part in this study. My decision to allow the adolescent in my care to assent to taking in the study is voluntary. I understand she/he may decide not to participate without penalty or loss of benefits or treatment at the local health facility. I have been told what the possible risks and benefits are of accepting to participate in this study and I had an opportunity to ask questions. I understand that confidentiality will be maintained and it will not be possible to identify me or the adolescent in my care. I also understand that the information collected may be used in reports but that confidentiality will be maintained. I therefore permit his/her participation in the study.

_____	_____	_____
Participant's Name	Signature	Date
_____	_____	_____
Name of Investigator	Signature	Date
_____	_____	_____

Name of the witness (for illiterate parent/guardian) Signature Date

UNIVERSITY OF THE WESTERN CAPE

Private Bag X 17, Bellville 7535, South Africa

Tel: +27 21-959 2809, Fax: 27 21-959 2872

E-mail: soph-comm@uwc.ac.za

KHOLO/OMUSUNGA MAWU OMULOLA KUTENGAKO MBALI

(WACHINYAMA WA ZAKA 18 AMENE AKUTENGAKO MBALI MU KAFUKUFU KU)

Mutu wa kafukufuku aka: Kugonana koyamba kwa Achichepele 15-19 ochokela ku kan yama na chipata mu mzinda wa Lusaka mu dziko la Zambia.

Ndapasidwa ntawi yokwanila kusinkasinka ngati nichololedwa kuti achinyamata amene ndik uyanganila angatengemo mbali mu kafukufuku aka. Chosanka change ndichakuti, achinyama ta ali ndi ufulu kuti atengemo mbali mukufufuza mwaulele. Ndizindikila kuti mwamuna kape na mukazi aliyense amene akana kutengako mbali,sazatanidwa thandizo ina iliyonse pa malo ano. Ndauzidwa bwino kwambili za ubwino ndiponso mavuto amene alipo mogwilizana ndi kufufuza uku. Ndipo chisinsi chilipodi pakati pa ine ndi achinyamata amene ndikuyanganila.s i apo peka basi, koma ndaunikilidwa kuti zotulukapo za kufufuza uku zingafakidwe mu malip oti koma mosatila chisi kwabasi. Mwa ichi, ndilola kuti munyamata/mukazi ameneyu atenge mo mbali mu kufufuza uku.

_____ _____ _____

Dzinalo la Wophunzira Chizindikiro Tsiku

_____ _____ _____

Dzinalo Dzina La Wofufuza Chizindikiro Tsiku

_____ _____ _____

Dzina la mboni (ya ophunzira osaphunzira) Losainira Tsiku

Appendix 6

UNIVERSITY OF THE WESTERN CAPE

Private Bag X 17, Bellville 7535, South Africa

Tel: +27 21-959 2809, Fax: 27 21-959 2872

E-mail: soph-comm@uwc.ac.za

PARTICIPANT CONSENT FORM

(For those aged 15-17 years)

Title of Research Study: Early Sex Debut and Safer Sex Practices among Adolescents aged 15-19 years in Kanyama and Chipata Communities in Lusaka, Zambia.

I have been given sufficient time to consider whether participate in the study. I have understood the information sheet carefully and it has been explained to me to my satisfaction. I understand that my decision to participate is entirely voluntary. I have been informed that refusal to participate will not involve any form of penalty. I have been informed that data collected will be stored safely. I understand that confidentiality will be maintained and it will not be possible to identify me. I understand that the information collected will be used in reports but that confidentiality will be maintained. I also understand that my signed assent below is required.

A signed consent from parent/guardian will be obtained before completing this assent form.

VOLUNTARY ASSENT I voluntarily agree to participate in the research study.

_____	_____	_____
Participant's Name	Signature	Date

_____	_____	_____
Name of Name of Investigator	Signature	Date
_____	_____	_____
Name of the witness (for illiterate participants)	Signature	Date

UNIVERSITY OF THE WESTERN CAPE

Private Bag X 17, Bellville 7535, South Africa

Tel: +27 21-959 2809, Fax: 27 21-959 2872

E-mail: soph-comm@uwc.ac.za

FOMU YOVOMEREZEDWA WOTHANDIZA

(Kwa omwe ali ndi zaka 15-17)

Mutu wa Kafukufuku Wofufuza: Kuyamba Kugonana Poyambirira komanso Njira Zogonana Zotetezeka Pakati pa Achinyamata 15-19, ku Lusaka, Zambia.

Ndapatsidwa nthawi yokwanira kuti ndilingalire ngati ndingatenge nawo nawo phunziroli. Ndamvetsetsa bwino lomwe tsambalo ndipo adandifotokozera ndikhutira. Ndikumvetsetsa kuti lingaliro langa lotenga nawo mbali ndichofunitsitsa. Adauzidwa kuti kukana kutenga nawo mbali sikuphatikiza chilango chilichonse. Ndadziwitsidwa kuti zomwe zasonkhanitsidwa zidzasungidwa bwino. Ndikumvetsetsa kuti chinsinsi chidzasungidwa ndipo sizingatheke kundizindikira. Ndikumva kuti zambiri zomwe zasonkhanitsidwa zizigwiritsidwa ntchito mu malipoti koma chinsinsi chidzasungidwa. Ndikumvetsanso kuti kuvomerezedwa kwanga pansipa ndikofunikira.

Chilolezo chosainidwa kuchokera kwa kholo / woyang'anira chidzapezedwa asanamalize fomu yovomerezekayi.

KUGWIRITSA NTCHITO YOTHANDIZA Ndivomera mwaufulu kutenga nawo mbali pakafukufuku.

_____ _____ _____

Dzinalo la Wophunzira Chizindikiro Tsiku

_____ _____ _____

Dzinalo Dzina La Wofufuza Chizindikiro Tsiku

_____ _____ _____

Dzina la mboni (ya ophunzira osaphunzira) Losainira Tsiku

Appendix 7

UNIVERSITY OF THE WESTERN CAPE

Private Bag X 17, Bellville 7535, South Africa

Tel: +27 21-959 2809, Fax: 27 21-959 2872

E-mail: soph-comm@uwc.ac.za

PARTICIPANT CONSENT FORM

(For those aged 18 - 19 years)

Title of Research Study: Early Sex Debut and Safer Sex Practices among Adolescents aged 15-19 years in Kanyama and Chipata Communities in Lusaka, Zambia.

I have been given sufficient time to consider whether to take part in this study. My taking part in this research study is voluntary. I do understand that I may decide not to take part or to withdraw from the research study at any time without penalty or loss of benefits or treatment to which I am entitled. I have had an opportunity to ask my study investigator questions about this research study and my questions so far have been answered to my satisfaction. I have been told how long my participation in the research study will take and I will be asked to voluntarily sign this Participant Information and Consent Form. I voluntarily agree to take part in this research study.

_____	_____	_____
Participant's Name	Signature	Date
_____	_____	_____

Name of Name of Investigator	Signature	Date
_____	_____	_____
Name of the witness (for illiterate participants)	Signature	Date

UNIVERSITY OF THE WESTERN CAPE

Private Bag X 17, Bellville 7535, South Africa

Tel: +27 21-959 2809, Fax: 27 21-959 2872

E-mail: soph-comm@uwc.ac.za

ZOLEMBEDWA ZA MAKOLO / MULONDI WA FOMU YOVOMEREZA

(Kwa achinyamata azaka zosakwana 18 ndi 19 omwe akuchita nawo kafukufukuyu)

Mutu wa Phunziro Lofufuza: Kuyamba Kugonana Poyambirira komanso Kugonana Kwabwino pakati pa Achinyamata 15-19 wazaka ku Kanyama ndi Chipata midzi ku Lusaka, Zambia.

Ndapatsidwa nthawi yokwanira kuti ndione ngati wachinyamata yemwe ndimamusamalira atenga nawo mbali phunziroli. Lingaliro langa lolola wachinyamata yemwe ndimamusamalira kuvomera kutenga nawo phunziroli ndi lodzipereka. Ndikumvetsetsa kuti atha kusankha kuti asatenge nawo gawo popanda chindapusa kapena kutaya phindu kapena chithandizo kuchipatala. Ndauzidwa zomwe zingakhale zowopsa ndi zabwino zake ndikulola kutenga nawo mbali phunziroli ndipo ndidakhala ndi mwayi wofunsa mafunso. Ndikumvetsetsa kuti chinsinsi chidzasungidwa ndipo sizingatheke kuti ndidziwe ine kapena wachinyamata yemwe ndili m'manja mwanga. Ndikumvetsanso kuti zambiri zomwe zasonkhanitsidwa zitha kugwiritsidwa ntchito mu malipoti koma chinsinsi chidzasungidwa.

Chifukwa chake ndikuloleza kutenga nawo gawo phunziroli.

_____ _____ _____

Dzinalo la Wophunzira Chizindikiro Tsiku

_____ _____ _____

Dzinalo Dzina La Wofufuza Chizindikiro Tsiku

_____ _____ _____

Dzina la mboni (ya ophunzira osaphunzira) Losainira Tsiku

Appendix 8

UNIVERSITY OF THE WESTERN CAPE

Private Bag X 17, Bellville 7535, South Africa

Tel: +27 21-959 2809, Fax: 27 21-959 2872

E-mail: soph-comm@uwc.ac.za

QUESTIONNAIRE

Health Facility Name/Community _____

Client ID _ _

Date __ __/ __ __/ __ __ (DD/MM/YY)

Greetings, in this questionnaire we will talk about you in general and matters regarding your sex life.

To start, I would ask you some general questions		
Question	**Answer choices**	**Data Entry**
1. How old were you on your last birthday?		
	1. 15 years	**1**
	2. 16 years	**2**
	3. 17 years	**3**
	4. 18 - 19 years	**4**
	5. I chose not to disclose	5

2. What is your sex?	1. Male 2. Female 3. I chose not to disclose	**1** **2** **3**
3. What is the highest level of your education?	1. Never been to school 2. Primary 3. Secondary 4. Tertiary	**1** **2** **3** **4**
4. What is your marital status?	1. Never been married 2. Married 3.Living together 4. Divorced / Separated 5. Widowed	**1** **2** **3** **4** **5**
5. Have you ever had an abortion because you had unplanned pregnancy?	1. Yes 2. No	**1** **0**
6. How many children do you have?	1. 1 2. 2 3. 3 4. 4+	**1** **2** **3** **4**
7. What is your employment status?	1. Employed 2. Self-employed 3. No employment at all	**1** **2** **3**

The following questions below are on HIV Testing

8. Have you ever been tested for HIV?	1. Yes 2. No 3. I chose not to disclose	**1** **2** **3**
9. When you last tested for HIV?	1. Three months ago 2. Six Months ago 3. 12 months ago +	**1** **2** **3**
10. Where did you test?	1. At local facility 2. In the community	**1** **2**
11. What was the result of the test?	1. Positive 2. Negative 3. Does not know 4. Cannot share	**1** **2** **3** **4**
12. Have you ever had an STI before?	1. Yes 2. No	**1** **2**
13. Did you open up to your partner about the STI you had?	1. Yes 2. No	**1** **2**
14. How easy is it for you to open up to your partner concerning STIs?	1. Very easy 2. Easy 3. Difficult 4. Very difficult	**1** **2** **3** **4**

15. Did you have an STI in the last 12 months?	1. Yes 2. No 3. I chose not to disclose	**1** **2** **3**
16. Where do you access treatment and care for STIs	1. Clinic 2. Traditional healer 3. Buy medicine off the counter 4. Other……..Specify	**1** **2** **3** **4**
The following questions are about how you feel about intimacy and sexual intercourse. By sexual intercourse, we mean vaginal, oral, or anal sex. Again, please answer truthfully because it is important that we collect accurate information for our study to be meaningful. If you are unsure about the meaning of any question, please ask the researcher to explain.		
17. Do you ever engage in vaginal, anal, or oral sex? Select all that apply.	1. vaginal 2. anal 3. oral 4. I chose not to disclose	**1** **2** **3** 4

18. How old were you when you had sexual intercourse for the first time?	1. Below 10 years 2. 11-13 years 3. 14-15 years 4. 16-17 years 5. 18 -19years 6. I chose not to disclose	**1** **2** **3** **4** **5** **6**
19. The last time you had sexual intercourse, why did you do it?	1. For fun 2. My partner demanded 3. My friends were doing it 4. I was forced 5. Other…specify	**1** **2** **3** **5** **6**
20. The last time you had sexual intercourse, how old was your partner? If you are not sure how old they were then give your best guess.	1. My age mate 2. 5 years older 3. 10 years older 4. 15 years older 5. 20 years+ older	**1** **2** **3** **4** **5**
21. The last time you had sexual intercourse, did you and your partner use a condom?	1. Yes 2. No	**1** **2**
22. The last time you had sexual intercourse, between you and your partner who decided condom use?	1. Myself 2. My partner	**1** **2**

23. The last time you had sexual intercourse, did you drink alcohol or use drugs?	1. Yes 2. No	**1** **2**
24. During the past 12 months, with how many people have you had sexual intercourse with	1. One 2. Two 3. Three 4. Four 5. Five + 6. I chose not to disclose	**1** **2** **3** **4** **5** **6**
The questions below are on drugs and alcohol		
25. How often do you have a drink containing alcohol?	1. I don't drink 2. Once a week 3. Twice a week 4. Three times a week 5. Everyday	**1** **2** **3** **4** **5**
26. How many drinks containing alcohol do you have on a typical day when you are drinking?	1. 1-3 drinks 2. 4-6 drinks 3. 7-10 drinks 4. 11 + drinks	**1** **2** **3** **4**
27. How often do you have six or more drinks on one occasion?	1. Every week 2. Every month 3. On special occasions only	**1** **2** **3**

28. How often do you use drugs other than alcohol [including marijuana]?	1. I do not do drugs 2. Once a week 3. Twice a week 4. Three times a week 5. Everyday 6. I chose not to disclose	**1** **2** **3** **4** **5** **6**
29. How many times do you take drugs on a typical day when you use drugs?	1. 1-3 times 2. 4-6 times 3. 7-10 times 4. 11 + times	**1** **2** **3** **4**
30. How often are you heavily influenced by drugs?	1. Am not influenced at all 2. Every time I use drugs 3. Other……specify 4. I chose not to disclose	**1** **2** **3** 4
31. In which month did you last visit the clinic?	1. This month 2. Last month 3. 2-3 months ago 4. I can't remember 5. Other specify	**1** **2** **3** **4** **5**

32. When you need to access a condoms, do you usually attend the local clinic in this community?	1. Yes 2. No	**1** **2**
33. Where do you usually collect condoms from?	1. Local clinic 2. Shops/chemist 3. Friends 4. Community health workers 5. Other…..specify	**1** **2** **3** **4** **5**
Thinking about your last visit to the clinic to collect condoms, how strongly do you agree or disagree with the following statements?		
34. The health workers at the clinic made me feel welcome the last time I went to the clinic	1. Agree 2. Disagree	**1** **2**
35. I felt embarrassed the last time I went to the clinic	1. Agree 2. Disagree	**1** **2**
36. I feel comfortable talking to a health worker at the clinic about, condoms, sex or sexually transmitted infections	1. Agree 2. Disagree	**1** **2**