MEETING THE CONTRACEPTIVE NEEDS OF HIV POSITIVE ADOLESCENT FEMALES LIVING IN URBAN TOWNSHIPS IN WESTERN CAPE, SOUTH AFRICA: PERSPECTIVES OF CLIENTS AND PRIMARY HEALTH CARE PROVIDERS

Biodun Nelson Olagbuji

Thesis presented for the degree of

Doctor of Philosophy

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Supervisor: Professor Jennifer Moodley

Co-supervisor: Professor Catherine Mathews

Co-supervisor: Professor Diane Cooper

This thesis is presented in fulfilment of the requirements for the degree of Doctor of Philosophy (Ph.D) in the School of Public Health and Family Medicine, Faculty of Health Sciences, University of Cape Town. The work on which this thesis is based is original research and has not, in whole or in part, been submitted for another degree at this or any other university. The contents of this thesis are entirely the work of the candidate.

Signed by candidate

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Biodun Nelson Olagbuji

15th October 2020

Abstract

Background: Contraception remains the cornerstone of the global strategy to prevent unintended pregnancy, as well as horizontal and perinatal/postnatal HIV transmission in women living with HIV (WLHIV), including female adolescents living with HIV (ALHIV). Although increased data and research on WLHIV contraception has provided opportunities to strengthen contraception services in HIV programmes, little is known about ALHIV contraceptive behaviours and needs, as well influences on their access to and utilisation of contraceptive services to inform the design of strategies that would enhance optimal contraceptive services in ALHIV programmes.

Methods: A mixed-methods design included a cross-sectional study of female ALHIV (n=303) through a questionnaire survey, and semi-structured in-depth interviews with both system- and service delivery–level providers (N=19). Quantitative data were analysed using Stata 15. Quantitative analyses include descriptive statistics and regression modelling, including multinomial and multivariate logistic regressions. Thematic analysis of qualitative data was conducted using Nvivo 11. Quantitative and qualitative data were triangulated in the interpretation of results.

Results: Contraceptive prevalence (83.5%) is extremely high among all the female ALHIV and even higher among sexually active female ALHIV (86.8%), and contraceptive prevalence rates are at least 20% higher than the South Africa Demographic and Health Survey (SADHS) rate for the general population of female adolescents or sexually active female adolescents. The rate of unmet need for contraception (23.6%) remains considerable. Contraceptive prevalence is also high among both female with peri/postnatally acquired HIV (pALHIV) and horizontally acquired HIV (hALHIV). The majority of current contraceptive users relied on injectables (60.5%), followed by condoms alone (27.7%), then long-acting reversible contraceptives [LARC](9.1%) and hormonal pills (2.7%). Almost 1 in 5 (18.8%) female ALHIV had an unintended pregnancy. When contraceptive use consistency was restricted to the three months preceding the survey, levels of consistent condom use and dual-method use were 37.9% and 20.6%, respectively. Also, the

quantitative data shows multiple barriers and facilitating factors for contraceptive uptake among female ALHIV. Overall, both the quantitative and qualitative data generally found that the receipt of contraceptive provision and use are similar between female pALHIV and hALHIV; however, the quantitative data suggest that pALHIV were more likely to experience unintended pregnancies compared to hALHIV. Though the quantitative data lack information on the particular hormonal method associated with HIV-specific safety concerns, there is evidence suggesting that the concern about HIV-specific hormonal contraceptive-related risks does not impact hormonal contraceptive uptake among ALHIV. Furthermore, adolescent-friendly services (AFS) appear to have been reasonably well-mainstreamed into routine care in the Cape Town context at least, to the extent that standalone youth clinics do not appear to provide significant added value to contraception-related outcomes among female ALHIV. The qualitative data highlighted preponderance of injectable contraception, inconsistent contraceptive use, fears about the intrauterine device (IUD) use, positive and negative provider attitudes to contraceptive services for ALHIV, and provider competency and training, among others.

Conclusion: Overall, the thesis supports socioecological-based approaches to contraceptive care for female ALHIV as well as mainstreaming AFS within public sector facilities. Moreover, potential risk-reducing interventions, such as a client-centred approach to contraceptive care, are needed to improve pALHIV's risk of unintended pregnancies.

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List of acronyms and abbreviations

AFS	Adolescent-friendly services
AIDS	Acquired immune deficiency syndrome
ALHIV	Adolescents living with HIV
ANOVA	Analysis of variance
aOR	Adjusted odd ratio
ART	Anti-retroviral therapy
aRRR	Adjusted relative risk ratio
CD4	Cluster of differentiation 4
CDI	City development index
CI	Confidence interval
CPR	Contraceptive prevalence rate
cOR	Crude odd ratio
cRRR	Crude relative risk ratio
DHS	Demographic health survey
DMPA	Depot medroxyprogesterone acetate
DSG/ES	Desogestrel/ethinyl estradiol
DoH	Department of Health
EPV	Event per variable
FHI	Family Health International
H	Hypothesis
hALHIV	Horizontally infected ALHIV
HDI	Human development index
HIV	Human immunodeficiency virus
HREC	Human Research Ethics Committee
IDI	in-depth interviews
IQR	Interquartile range
IUD	Intrauterine device
LARC	Long-acting reversible contraception

LNG-IUDs	Levonorgestrel intrauterine devices
LRT	Likelihood ratio test
MCAR	Missing completely at random (MCAR)
MAR	Missing at random
NET-EN	Norethisterone enanthate
NNRTI	Non-nucleoside reverse transcriptase inhibitor
OR	Odds ratio
PCA	Principal Component analysis
PEPFAR	President's Emergency Plan for AIDS Relief
PHC	Primary Health Care
PhD	Doctor of Philosophy
PI	Protease inhibitor
pALHIV	Perinatally infected ALHIV
PLHIV	People living with HIV
PSA	Purposive selection algorithm
RCT	Randomised controlled trial
REACH	Reaching for Excellence in Adolescent Care and Health
REDCap	Research Electronic Data Capture
SANAC	South African National AIDS Council
SEM	Socio-ecological model
SES	Socio-economic status
SRH	Sexual and reproductive health
STIs	Sexually transmitted infections
UCT	University of Cape Town
UNAIDS	The Joint United Nations Programme on HIV and AIDS
UNDP	United Nations Development Programme
UNFPA	United Nations Population Fund
UNICEF	United Nations Children Emergency Fund
U.S	United States

VIF	Variance inflation factor
WLHIV	Women living with HIV
WHO	World Health Organisation
YFS	Youth friend services

Glossary of terms

Adolescents refer to individuals between ages 10 and 19.

Antiretroviral therapy (ART) consists of multiple antiretroviral (ARV) drugs to maximally suppress the HIV or halt the progression of HIV disease.

Antiretroviral adherence: For this study, ARV adherence refers to the use of ARVs at the right frequency and dosing over the 4 days preceding a client interview. ALHIV who adhered to their antiretroviral therapy schedule 100% of the time are considered adherent to their ART.

ART Naïve in this study refers to ALHIV who did not initiate ART before participation in the survey.

Contextual factors: means the context in which an individual is embedded, and this context includes relational/interpersonal, institutional, community, and societal factors.

Contraceptive prevalence rate: This is defined as the per cent of women of reproductive age (15-49) who are using (or whose partner is using) a contraceptive method at a given point in time (WHO., 2020).

Dual method use: Describes the use of an effective contraceptive method for pregnancy prevention (hormonal contraception, intrauterine device, or sterilization) plus consistent use of male or female condoms to prevent STI and HIV transmission.

Dual protection: Refers to the use of a method or methods that can protect against unintended pregnancy as well as STI and HIV transmission. This can be achieved through single method use (male or female condoms only) or dual method use.

General PHC clinics: In this study, it refers to health facilities that offer PHC services for patients of various age groups.

HIV-reinfection: refers to either (i) co-infection with another HIV viral strain at the same time or within a month of the initial HIV-infection or (ii) super-infection- infection with another strain of the virus in a person with an established HIV infection (Shapiro & Ray, 2007).

Horizontally infected ALHIV refers to adolescents with behaviourally acquired HIV (e.g., through sexual intercourse, injection drug use, etc).

Hormonal contraception: Includes oral contraceptives (OCs), injectables, implants, patches, rings, and levonorgestrel intrauterine devices (IUDs).

Key informants: Include healthcare providers (doctors, nurses, clinic managers, and counsellors), and system-level policymakers working in the township communities selected for this research study.

Long-acting reversible contraception: Includes intrauterine devices and implants.

Mature Minor: Refers to adolescents within the age group 14-17 years. The matured minor concept is premised on the evidence that adolescents aged 14 years and above have the cognitive capacity to make informed decisions.

Minor: The South African Children's Act (2005) defines any person under the age of 18 years as a minor.

Modern contraceptive methods in this thesis apply to sterilization, intrauterine devices, subdermal implants, oral contraceptives, condoms (male and female), Injectables, emergency

contraceptive pills, patches, diaphragms and cervical caps, spermicidal agents (gels, foams, creams, etc.), vaginal rings and sponge.

Models of HIV care: In this thesis, it apply to stand-alone youth clinics providing HIV services and general PHC clinics providing HIV services.

Non-hormonal contraception: Comprises male and female condoms, diaphragm, cervical cap, sponge, sterilization, and withdrawal.

Ph.D candidate: Refers to the doctoral student responsible for this dissertation.

Peri/postnatally infected ALHIV refers to adolescents who acquired HIV via maternal-to-child transmission routes.

Primary caregiver: A person who assumes the most responsibility for the care, and upbringing of an HIV-infected adolescent minor aged 12 years and above are considered as the primary caregiver in the context of this research. Primary caregivers may include parents, grandparents, other relatives, or legal guardians.

Standalone youth clinics refer to health centres that provide health care services to young people, and may also offer and recreational facilities.

Self-efficacy refers to people's judgements about their capabilities to execute behaviours necessary to produce designated levels of performance (Bandura., 1986). In this study, self-efficacy applies to ALHIV skill to hesitate sexual vaginal intercourse without the use of condom and/or any other modern contraceptive method.

Sexually active adolescents: In the context of this study, adolescents who have had sexual intercourse in the previous three months are considered to be sexually active.

Unintended pregnancy: "Unintended pregnancies are pregnancies that are reported to have been either unwanted (i.e., they occurred when no children, or no more children, were desired), mistimed (i.e., they occurred earlier than desired), or unplanned (i.e., one that occurred when the woman used a contraceptive method or when she did not desire to become pregnant but did not use a method)" (Santelli et al., 2003).

Townships: In South Africa, townships "refer to the urban (often underdeveloped) living areas that, under Apartheid, were reserved for black Africans and coloureds, but also working-class Indians. Townships are on the periphery of towns and cities. Townships sometimes have large informal settlements nearby" (Setswe, 2010).

Unmet need for contraception: describes women who are fecund and sexually active, not using any method of contraception, and who report not wanting any more children or wanting to delay their next birth" (WHO., 2020).

Youth or young adults are considered those individuals between the ages 15 and 24.

Young people refer to individuals between ages 10 and 24.

Youth- and adolescent-friendly service-provision models refers to service delivery models that are adolescent/youth friendly. Models to provide youth/adolescent friendly services include standalone clinic, separate space co-located in public or private health facilities, mainstreamed services within existing services, mobile outreach services, drug shops and pharmacies, and community based services (Simon et al., 2015).

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1. Introduction

1.1 Background

1.1.1 Overview of the contraceptive needs of ALHIV

Globally, four out of five ALHIV, defined by the United Nations as persons aged 10-19 years (UNICEF, 2013), live in sub-Saharan Africa (Idele et al., 2014). Like in most of the United Nations Children's Fund (UNICEF) regions, HIV infection rates among adolescents in sub-Saharan Africa are higher among girls than among boys (Idele et al., 2014). Recent HIV/AIDS data published by the South African National AIDS Council (SANAC) suggest approximately two-fifths of new HIV infections in South Africa occur among young women and adolescent girls (SANAC., 2017). Furthermore, it is estimated that over 240,000 new HIV infections occurred in 2018, ranking South Africa first in terms of the global HIV incidence (UNAIDS., 2019).

Contraception, either dual method or dual protection, remains the cornerstone of the global strategy to prevent unintended pregnancy, vertical HIV transmission and sexual transmission of HIV in women living with HIV (WLHIV), including female ALWH (Haddock et al., 2008, p.84). Several different simulation models have demonstrated the potential impact of contraceptive services on preventing HIV transmission and unintended pregnancies among WLHIV (Stover et al., 2003; Sweat et al., 2004; Reynolds et al., 2004; Reynolds et al., 2008). One such simulation model evaluated the role of contraception in avoiding unintended pregnancies and HIV-positive births among WLHIV in President's Emergency Plan for AIDS Relief (PEPFAR) focus nations. The study also examined the cost savings to these nations. The results showed that, annually, the estimated number of such unintended pregnancies avoided through contraceptive use ranged from 595 in Guyana to 400,854 in South Africa (Reynolds et al., 2008). Additionally, HIV-positive births averted ranged from 178 in Guyana to as high as 120,256 in South Africa (Reynolds et al., 2008). The estimated cost savings associated with averting these births were substantial, ranging from $26,000 in Vietnam to $2.2 million in South Africa (Reynolds et al., 2008).

Despite such benefits, female ALHIV have a continuing risk of infecting an uninfected partner, unintended pregnancy and HIV superinfection (Carter et al., 2013). Within South Africa, female ALHIV in urban townships seem particularly vulnerable. These socio-economically disadvantaged townships bear the highest burden of HIV infection, and the proportion of unintended pregnancies is higher than the rest of the country (Shisana et al., 2014; Jewkes et al., 2001; Myer et al., 2004). This suggests that female ALWH in urban townships in South Africa have critical contraceptive needs that are made more challenging not only by their HIV status but also by the context in which they live. The current literature offers little insight into HIV-positive adolescent girls' broader contraceptive needs, such as counselling, method choice, service preferences and the extent to which services are friendly to adolescents.

The assessment of the contraceptive needs of female ALHIV has been proposed as an important step in the development of strategies to address their contraceptive needs and improve their access to and use of contraceptive services in HIV care and treatment services (Birungi et al., 2008). Moreover, as a socio-ecological intervention approach has been found particularly useful in addressing adolescent reproductive health (DiClemente et al., 2005), this is an important way to assess female ALWH contraceptive needs.

A specific focus of the Western Cape Department of Health is on integrating contraceptive services into HIV care and treatment programs to improve health outcomes for WLHIV in Western Cape Province (Van Esch et al., 2014). Many factors may limit the contraceptive needs of female ALHIV in townships. Therefore, exploring the factors that impact the provision and utilisation of contraceptive services at multiple levels such as individual, interpersonal, community, institutional (including structure and processes of care) and societal for female ALHIV, as well as their contraceptive experiences, can help to address their specific contraceptive needs and lead to more focussed interventions.

1.1.2 Contraceptive non-use and reproductive health outcomes in ALHIV

Without contraception, WLHIV including adolescent girls face a significant risk of adverse consequences including unintended pregnancies and associated perinatal HIV transmission as well as HIV-reinfection and HIV transmission to uninfected partners (Raifman et al., 2014). Indeed, making access to contraceptive services widely available to WLHIV is recognized by UNAIDS as a critical strategy to preventing unintended pregnancies, and holds the prospects for eliminating paediatric HIV infections and enhancing health outcomes for WLHIV and their children (UNAIDS|World Health Organisation., 2011).

WHO and UNAIDS consider contraceptive use to avert unintended pregnancies among HIV-positive women as one of the four key strategies to prevent maternal-to-child transmission of HIV (UNAIDS|World Health Organization, 2011). A simulation model that included data from 15 countries (mainly sub-Saharan African nations) supported by President's Emergency Plan for AIDS Relief (PEPFAR) demonstrated that the numbers of unintended pregnancies and HIV-positive births averted to HIV-positive South African women by contraceptive use per year were 400,854 and 120,256, respectively (Reynolds et al., 2008).

Studies from developed and developing country settings have found high rates of unintended pregnancy among female ALHIV; ranging from 74% in Kenya to 83% in United States (Elgalib et al., 2011; Kenny et al., 2012; Koenig et al., 2007; Obare et al., 2010a; Obare et al., 2012). These results are not surprising, as over 50% of adolescents in HIV care in sub-Saharan Africa have reported inconsistent condom use, and nearly 50% have reported non-use of any contraceptive method (Birungi 2008; Birungi et al., 2009; Olivera & Makumbi., 2013). In the United Kingdom, a study shows that two-thirds of female ALHIV were not using contraception prior to conception (Elgalib et al., 2011). The study also found that female ALHIV used condoms as their sole method of contraception, and a vast majority of pregnancies within 12 months of delivery were unintended (Elgalib et al., 2011). One study from sub-Saharan Africa demonstrated a substantial level of recurrent unintended pregnancies among female ALHIV (Obare et al., 2011). Empirical

evidence from sub-Saharan Africa has also suggested high levels of unintended pregnancies among female ALHIV (Obare et al., 2010a; Obare et al., 2012).

One study conducted in Kenyan among female ALHIV reported that the occurrence of adverse pregnancy outcomes (miscarriage, stillbirth, or abortion) was more likely in pregnancies that were unintended as compared to pregnancies that were intended (OR 1.3; 95% CI 0.5-3.3) (Obare et al., 2012). In South Africa, empirical data on the burden of unintended pregnancies among female ALWH are not available; however, the evidence that unintended pregnancies remain high among adolescent girls (HIV status unknown, HIV positive or negative) may point to high levels of unintended pregnancies among female ALWH (Christofides et al., 2014). This study underscores the vulnerability of ALHIV in South Africa to unintended pregnancy. However, no data to inform how to better the delivery and utilization of effective contraceptive services for this group of young women.

In summary, the levels of unintended pregnancies among female ALHIV are incredibly high, and the fact that female ALHIV included in the above studies were in HIV care and treatment programmes suggests that barriers to accessing contraceptive services exist for adolescent girls in HIV care. Thus, a better understanding of adolescent-friendly contraceptive services in HIV care and treatment programmes is needed to tailor services to the needs of female ALHIV.

1.2 Research context

1.2.1 Burden of HIV in South Africa

In South Africa, HIV/AIDs remains an epidemic and a major national health challenge (Simbayi et al., 2017; UNAIDS., 2019). Not only is South Africa the country with the largest number of people living with HIV (PLHIV) globally (UNAIDS, 2019), but there has also been a marked upward trend in HIV prevalence in the country (Shisana et al., 2002; Shisana et al., 2005; Shisana et al., 2009; Shisana et al., 2012; Shisana et al., 2014; Simbayi et al., 2017). This upward trend in HIV prevalence is expected as people are living longer with antiretroviral therapy (ART). The national

population-based surveys have shown that the estimated overall national HIV prevalence had risen from 11.4% in 2002 to 14% in 2017 (Shisana et al., 2002; Shisana et al., 2005; Shisana et al., 2009; Shisana et al., 2014; Simbayi et al., 2017). These prevalence estimates suggest that the number of persons living with HIV (PLHIV) in South Africa rose from 5.1 to 7.9 million over the 12 years covered by the national surveys. The over 50% increment in the country's HIV-positive population between 2002 and 2017 indicates explosive positive population growth among PLHIV in the country. According to UNAIDS Data 2019, there were 7.7 million PLHIV in South Africa in 2018 and 20.4% HIV prevalence among persons within the ages 15 – 49 years (UNAIDS., 2019). South Africa accounted for approximately one-fifth of the 37.9 million PLHIV globally in 2018 (UNAIDS., 2019), despite accounting for just less than 1% of the world's population. In the same year, the country also accounted for over 14% of the total 1.7 million people with newly acquired HIV infections and about 10% of the 770,000 global AIDS-related deaths.

Based on data from previous national population-based HIV surveys from 2002 to 2017, Simbayi and colleagues draw important conclusions regarding substantial differences in HIV infection levels by epidemiological profile, including age, gender, race, province and locality type (Shisana et al., 2002; Shisana et al., 2005; Shisana et al., 2009; Shisana et al., 2012; Shisana et al., 2014; Simbayi et al., 2017). In terms of gender, the epidemiological curve continues to show higher HIV prevalence among women than among men (Shisana et al., 2002; Shisana et al., 2005; Shisana et al., 2009; Shisana et al., 2012; Shisana et al., 2014; Simbayi et al., 2017; UNAIDS, 2019), and young women (ages 15 – 24) are disproportionally affected (UNAIDS, 2019).

Analysis of data from the last national HIV surveys suggests that KwaZulu-Natal, Eastern Cape and Free State were the provinces with the highest HIV prevalence, followed by Mpumalanga, North West, Gauteng, and Limpopo, and then by Northern Cape and Western Cape (Simbayi et al., 2017). Also, the UNAIDS Data 2019 revealed that adolescent girls constitute groups most affected by HIV/AIDS in South Africa (UNAIDS., 2019). Data from the 2012 national HIV surveys showed that HIV prevalence was nearly twice as high among residents in informal settlements than among those informal settlements (Shisana et al., 2014). Similarly, an analysis of HIV

prevalence among youth by locality in 2005 found that prevalence was highest among adolescents and young adults in informal settlements within urban areas (Shisana et al., 2005).

Adolescents living with HIV are a uniquely vulnerable subset of HIV-positive populations. In South Africa, studies have suggested that ALHIV experience additional challenges that put their health at risk. These challenges – such as neurocognitive deficits, ART adherence, stigma and disclosure challenges, and orphanhood (Hoare et al., 2012; Cloete et al., 201Madiba & Mokgatle., 2016) - also have implications for healthcare utilisation. Along with the factors that increase adolescents' risk of HIV infections (including sexual coercion and age-disparate sexual relationships) (Shisana et al., 2014), these additional challenges put them at risk of sexual risk-taking behaviour and consequent teenage pregnancy.

1.2.2 Current contraception policy and profiles in South Africa

Since the early 2000s, South Africa has established a national policy on contraception, released in two complementary documents, within the framework of reproductive health, rights and equity aimed at improving access to contraception in the general population (Department of Health., 2001). Due in part to HIV prevalence, development of new contraceptive technologies and findings from contraceptive research (specifically, the link between HIV acquisition and hormonal contraception), the scope of the contraception policy launched in the early 2000s has been expanded in the new national contraception policy launched in 2013 (Department of Health., 2012a). The revised policy which was also released in two documents (*The National Contraception and Fertility Planning Policy and Service Delivery Guidelines and its companion*, the *National Contraception Clinical Guidelines)* includes an emphasis on strategies to address the contraceptive needs of WLHIV (either on ART or ART-naive) (Department of Health, 2012a, 2012b). These strategies include the inclusion of contraception within the context of HIV and appropriate integration of contraceptive and HIV services. Furthermore, the contraceptive policy documents acknowledge the high burden of unintended pregnancies among women living with HIV, and the emphasis is also placed on HIV testing in contraception program, pregnancy

prevention and provision of comprehensive and accessible contraceptive services as crucial strategies for preventing unintended pregnancies in this sub-group of women.

Besides promoting access to contraceptive method mix, specifically expanding contraceptive choices to include longer acting reversible contraceptives (Copper IUD, intrauterine systems and implants), the use of dual method among WLHIV is also a key feature of the new contraception policy. Further, provision of high-quality contraceptive services is also highlighted in the policy, and key areas for high-quality contraceptive service delivery include effective procurement and supply, management systems, rights, the environment of care, accessibility and acceptability, with special emphasis on confidentiality, privacy, contraceptive choices, and technical competence for WLHIV.

Furthermore, consider adolescents among certain groups of clients that should be offered special contraceptive needs (defined as “making contraceptive services accessible, and dismantling barriers that would prevent service utilization”). The policy documents also promote adolescent access to contraception on the ground that young age is not a barrier to using any form of contraception. Unfortunately, the policy documents have no separate recommendations for ALHIV. Despite the evidence on adolescent-friendliness of the National policy documents on contraception, critical gaps exist in terms of contraceptive service provision to adolescents. Hoope and colleagues used the "WHO Contraception-Specific Guidance and Recommendations" as an analytic framework to determine how current South Africa's contraception policy addressed the needs of adolescents (Hoopes et al., 2015). This analysis revealed that there are gaps with respect to informed decision making, availability and adolescents' involvement in program developments that can create barriers to accessing quality contraception service for adolescents.

Another policy that is geared towards improving South African adolescents’ access to contraception is the integrated school Health Policy launched in 2012. The integrated policy considers contraceptive counselling, and methods or referral for sexually active adolescent

learners by an on-site nurse; with emphasis on dual contraception, as part of the Primary Health care reengineering programme (Department of Health., 2012c). In Western Cape, nurses at the public-sector primary health care system provide school health services. To enhance access to contraception for ALHIV, including both in-school and out-of-school ALHIV, there is need to explore the understandings of key informants involved in both HIV and contraception services (e.g. system-and service delivery-level providers) in primary health care (PHC) facilities.

Adolescents' access to contraception is also promoted by the current Children's Amendment Act (No. 41 of 2007). Section 134 ("Access to contraceptives") "states that no person may refuse to sell condoms to a child over the age of 12 years; or refuse to provide a child over the age of 12 years with condoms on request, where such condoms are provided or distributed free of charge". The act also states that a child over the age of 12 years may independently access contraception other than condoms. Concerning the quality of care perspective, the act highlights confidentiality in the provision of contraceptive services to young people (Children's Amendment Act., 2007).

On the contraception profile side, DHS studies conducted in South Africa and two other Southern African countries (Zimbabwe and Lesotho) in the past decade suggest similarity in the levels of current contraceptive prevalence, however, the mix of contraceptive methods vary across the three southern African countries (Ministry of Health [Lesotho] and ICF International., 2016; Zimbabwe National Statistics Agency and ICF International., 2016; National Department of Health., 2019). In the 2016 South Africa DHS (SADHS) data, the current contraceptive prevalence rate (CPR) is 48.2% among all women age 15 - 49 years, close to 48.6% in the 2015 Zimbabwe DHS data and 48.9% in the Lesotho 2014 DHS data (Ministry of Health [Lesotho] and ICF International., 2016; Zimbabwe National Statistics Agency and ICF International., 2016; National Department of Health, 2019). In South Africa, current CPR among all women of reproductive age has declined from 50.2% in 2003 to 48.2% in 2016, probably because of decline in the prevalence use of norethisterone enanthate (NET-EN) injectable, pills and female sterilisation (Department of Health., 2007; National Department of Health., 2019). In contrast, current CPR has generally increased over time among all women of reproductive age in Zimbabwe (from 40.1% in 2005-

2006 to 48.9% in 2015) and Lesotho (from 29% in 2004 to 48.6% in 2014) (Ministry of Health [Lesotho] and ICF International., 2016; Zimbabwe National Statistics Agency and ICF International., 2016). Concerning the mix of modern contraceptive methods, recent DHS evidence suggests current use of injectable contraceptives is higher among all women of reproductive age in South Africa (23%) than Zimbabwe (7%) and Lesotho (17%). The proportion of current users of condoms was higher among women in South Africa (12%) than in Zimbabwe (4%), whereas women in Lesotho had an approximately twofold increase in current condom use compared to women in South Africa (19% vs. 12%, respectively). The current use of pills was lower among South African women (5%) than Zimbabwean (27%) and Lesotho women (9%). By comparison, uptake of long-acting reversible contraception, including implants and intrauterine device (IUD), was lower in South Africa (4%) than in Zimbabwe (9%), but higher than in Lesotho (2%). More women in South Africa relied on female sterilization (4%) than women in Zimbabwe (0.6%) and Lesotho (1%) (Ministry of Health [Lesotho] and ICF International, 2016; Zimbabwe National Statistics Agency and ICF International, 2016; National Department of Health, 2019).

The results of the recent SADHS indicate that CPR varies with age, rising from 60.4% among sexually active adolescents age 15 – 19 to 63.4% among sexually active women age 35 – 39, before decreasing to 42.9% among sexually active women age 45 – 49 (National Department of Health, 2019). The survey showed that male condoms and hormonal contraceptives were the methods currently used by adolescents. The most common contraceptive method currently used by adolescents was male condoms (24%), followed by injectable contraceptives (27%), then implants (5%) and pills (4%). Among adolescents reporting injectable contraceptives, injectable DMPA was higher, at 59%. There was a notable difference in the contraceptive method mix between adolescents and older women, with older women reporting current use of male and female sterilization, IUD, and female condoms, in addition to male condoms and hormonal contraceptives.

Given that the recommendations on adolescent contraception in the above policies are not explicit for ALHIV, there is the potential for the policies to be prone to diverse interpretations and implementations in the way they are applied to female ALHIV. There is no doubt that a focus

on ALHIV needs to be incorporated into all contraceptive policies, given the safety concerns around hormonal contraception in HIV-positive populations (e.g., HIV-disease progression, HIV-transmission to sexual partners). Thus, there is a need for understanding the issues of access to contraception for HIV-positive adolescent girls through the existing policies from the views of the diverse range of stakeholders [female ALHIV, system-level providers (i.e., sub-district health managers) and service-delivery level providers (facility managers, HIV clinic operational managers, doctors, nurses and adherence counsellors] whose perspectives can inform the provision of optimal health services. Furthermore, available DHS data suggest there are unique differences in the general contraceptive method mix by country within Southern Africa, and the only South Africa study that has explored contraceptive practices among ALHIV failed to explore their mix of specific contraceptive methods (Sadeghi et al., 2015). Thus, additional South Africa-specific data on the contraceptive method mix of ALHIV is required to guide policies and programmes to promote contraception in HIV services for adolescents.

1.2.3 Sexual and reproductive health and HIV services and the primary public healthcare system in Western Cape, South Africa

Under South Africa's National Health Act (61 of 2003), which sets a framework for a unified health system and universal health coverage via PHC system, Western Cape Province has a publicly funded, publicly managed, not-for-profit PHC system. In addition to the recognition of the right of every South African to have access to healthcare services, including reproductive healthcare, the National Health Act makes provisions for citizens who do not hold private medical insurance/Aids to be eligible for free primary care services, including, but not limited to, sexual and reproductive health services (National Health Act., 2003). The PHC service component of Western Cape's health system is the most critical, as it serves as the entry point into the care continuum and caters to the vast majority of healthcare needs (Western Cape Government Health, 2014). This is the trend across South Africa.

In the Western Cape, the management of PHC services falls under two types of health authorities: local (City Health) and provincial (Provincial Department of Health (DoH)). Apart from Cape Metro Health District with a dual public PHC system management (City Health and Provincial DoH), all Western Cape districts have a unified health management system under the jurisdiction of the Provincial DoH. The nature of PHC services is ambulatory, and public PHC services are provided across a range of healthcare facilities (Western Cape Government Health, 2014). These include clinics (including mobiles and satellites), Community Day Centres and Community Health Centres. Within the Cape Metro Health District, most clinics are operated by the local (City Health) health authority. The Provincial DoH operates Community Day Centres and Community Health Centres. Some public PHC facilities in the Cape Metro Health District are owned by both local and provincial authorities. Public PHC facilities are managed at the district level and are supported by a network of district hospitals.

The Western Cape Province has 479 publicly funded PHC centres, including 237 general PHC centres that provide HIV/AIDS treatment and care services. In Western Cape, approximately 35% of the HIV/AIDS-treatment centres are in the Cape Metro Health District. Moreover, Site B Youth Centre and Site C Youth Centre, both located in the Khayelitsha Health sub-district of the Cape Metro and administered by City Health, are the only publicly funded youth-only PHC clinics providing HIV treatment and care services in Western Cape. These youth centres are dedicated, stand-alone reproductive health clinics for youth aged 13–24 years. In addition, these youth centres deliver sport (snooker) and audio-music activities, along with information about life skills, provided by a youth mentor from a non-governmental organisation within the community. The operating hours of all public PHC facilities, as well as standalone youth clinics, are between 8:00 am and 16:30 pm, Monday through Friday. The facilities are closed on weekends and all public holidays.

The PHC service component of the Western Cape health system consists of three discrete but interrelated service delivery platforms, including home- and community-based care, primary care

services at health facilities and intermediate care (i.e., in-patient transitional care) (Western Cape Government Health, 2014). PHC facilities provide a broad range of preventative and curative services, together with services such as rehabilitation and palliative care services, to ensure one-stop service for patients (Western Cape Government Health, 2014). Besides the range of services, including maternal and child health services, described in the provincial primary care package (Western Cape Government Health, 2014), the public primary care facilities provide a full range of sexual and reproductive health services, such as termination of pregnancy, family planning services, sexually transmitted infections (STI) management, cervical cancer screening, HIV prevention and care, and antiretroviral therapy (ART). Although South Africa's PHC system is designed to be nurse-driven in terms of service delivery at healthcare facilities (Western Cape Government Health, 2014), HIV care and treatment services are delivered mainly by both medical and nursing personnel in most PHC facilities. The nursing personnel include staff nurses (diploma in nursing), professional nurses (Bachelor of Nursing) and clinical nurse practitioners (advanced diploma in primary clinical healthcare with infectious disease expertise). Medical personnel who provide HIV care and treatment services at PHC facilities include medical officers and family physicians. Other personnel involved in HIV care include adherence counsellors and community care workers (non-professional care workers, such as community health workers and home-based carers).

Youth clubs (peer support groups) are another critical feature of the HIV service delivery platform in South Africa. These are meant to ensure retention in care and adherence to treatment (Adherence Guidelines for HIV, TB, and NCDs, 2016). However, not all PHC facilities offering HIV/ART services have youth clubs. Youth clubs are lay healthcare worker-driven and have a nurse and/or a doctor to provide clinical support. Each youth club consists of approximately 20 members (including both ART-naïve and ART clients) who come together voluntarily. In terms of composition, youth clubs vary slightly within and between facilities in the Cape Metro district. The group may be a mixed-age group (adolescents and young adults), adolescents only, young adults only with mixed-gender, or gender-specific (only male or only female). Club meetings are held in a private space in the facilities, usually once a month during the first six months and bi-

monthly after that. Services such as ART refills, routine check-ups, laboratory services, clinical consultations and structured interactive group sessions are integrated into youth clubs.

The integration of family planning into HIV care/treatment services at PHC facilities has been an essential priority in the Western Cape Province, which has been encouraged by the success of the provincial Family Planning Integration Project into HIV services. The Family Planning Integration Project has increased client satisfaction and improved access to and uptake of contraception services among WLHIV attending PHC facilities (Van Esch et al., 2014). The project, initiated in September 2012, offers an opportunity for the roll-out of the integration of family planning and HIV services throughout the Western Cape Province. It also provides a framework and programmatic guidance for delivering integrated family planning and HIV services to the entire country. The integration approach is a combination of provider- and room-level integration (i.e., the simultaneous provision of HIV and family planning services by one provider within one consultation room) (Bradley et al., 2008). In Western Cape, as in other South Africa's provinces, HIV services have also been expanded to include other SRH services such as cervical cancer screening and STI care (SANAC., 2011).

1.2.4 Urban townships in Cape Town, Western Cape, South Africa

In South Africa, townships or locations refer to often underdeveloped urban living settlements, located as far from the economic city centres as possible and designated for non-white residents, including blacks, coloureds and Indians, during the apartheid era (Statistics South Africa., 2012a). In post-apartheid South Africa, the term 'township' is used for both legally defined residential and industrial areas. Historically, townships were created during the apartheid era as a mechanism for controlling the influx of non-whites into the cities (Mahajan, 2014). It is important to emphasise that the focus of this research is on townships that were established under apartheid. Townships are usually built on the outskirts of big towns and cities and sometimes have large informal settlements (defined as illegal dwellings generally constructed with wood and iron) located both within and around it (Mahajan, 2014). Most of the legal dwellings in the

townships have backyard shacks (Mahajan, 2014). In many ways, these historically established townships are synonymous with the slums in much of the developing world, except that townships were designed for residential purposes and in compliance with planning and building code norms (Mahajan, 2014).).

Data from South Africa's 2011 census demonstrated that 18 million people (approximately 35% of South Africa's total population) were residing in townships and informal settlements (Statistics South Africa, 2011). Approximately 50% of South Africa's urban population resides in townships and informal settlements, representing 38% of the working-age population (15 - 64 years of age). Nearly 60% of persons not employed in South Africa's labour force dwell in townships and informal settlements due to economic migration from rural areas and neighbouring nations (Mahajan, 2014). Among the reasons why many new internal and external migrants to South Africa settle in the townships include the low cost of living and affordable housing. Access to public health services, education, and other infrastructure, such as water, sewerage and electricity connections, remains highly problematic in the townships and informal settlements (Mahajan, 2014).

Data from the national statistical service of South Africa rank three of Cape Town's townships (Khayelitsha, Mitchell Plain and Gugulethu) among the 50 largest townships in the country (Statistics South Africa, 2011). These three townships account for over 20% of the population of the City of Cape Town Metro District (Statistics South Africa, 2011; City of Cape Town., 2011a; City of Cape Town., 2011b; City of Cape Town., 2011c). Table 1.1 illustrates the profiles of Cape Town's townships. All three are predominantly black people (99%), except for Mitchell Plain, which is predominantly coloured people (91%) (City of Cape Town., 2011a; City of Cape Town., 2011b; City of Cape Town., 2011c). Data from the City of Cape Town's district planning profiles provide evidence of the human development indicators - the Human Development Index (HDI) and the City Development Index (CDI) – in the city's townships. The HDI is the average of the following vital socio-economic indicators: health, education and income. The CDI is an indicator of city development concerning infrastructure, waste, education, city product and health. In

addition to these indicators, the CDI also includes infrastructure. These townships are among the city's most poorly developed areas, with HDIs and CDIs far below the city's averages of 0.82 and 0.83, respectively (Socio-economic Profile: City of Cape Town, 2006). Additionally, criminal activities (including rape) within Cape Town are concentrated in townships such as Gugulethu, Khayelitsha, Nyanga and Mitchells Plain (Kagee & Frank., 2005; Silber & Geffen., 2009).

As in other townships across South Africa, spontaneous protests are prevalent in Cape Town's large townships. These are mostly due to demand for better social infrastructure (including health services) and access to essential services. Issues related to HIV infection are also problematic in townships (Shisana et al., 2005).

Table 1.1: Profile of three of the largest townships in Cape Town

Profiles	**Mitchell's plain sub-districts**	**Khayelitsha sub-districts**	**Klipfontein sub-districts**
Population	310,485	391,749	384,189
Age		21.4%	
15 – 24 years	18.2%		18.8%
HIV prevalence (antenatal prevalence)[a]	18.4%	34.3%	22.3%
Public sector HIV & treatment clinics	8	12	8
Youth only services' facilities[b]	1	2	1
Completed education beyond Grade 12[c]	5.9%	4.9%	8.6%
Economic profile			
Not economically active	39.1%	34.8%	39.8%
Household without income	10.4%	18.8%	14.7%

Informal dwelling	5.1%	55.4%	23.7%

Source: City of Cape Town – 2011 Census Suburb; [a]Data from Western Cape Department of Health; [b]Only Khayelitsha Youth services' facilities offer reproductive health services, including HIV care and treatment services (the remaining two youth centres offer reproductive reproductive health services, except HIV care and treatment); [c]Proportion of persons aged 20 and above.

1.3 Research questions, aims and objectives

This thesis focusses on understanding the contraceptive needs of female ALHIV in South Africa's largest urban townships in Western Cape by exploring multiple perspectives from a broad range of key actors, including female ALHIV clients, system-level providers and service-level providers. In a relatively high HIV-burden country like South Africa, the HIV burden seems to be concentrated in urban townships, with adolescent girls disproportionately affected by HIV, coupled with a high risk of unintended pregnancy. In this light, there is a need to understand the full range of female ALHIV contraceptive needs, as well as the factors associated with access to and use of contraception.

1.3.1 Research questions

The research questions guiding this thesis include:

1. How do contraceptive behaviours and related outcomes among female ALHIV relate to contextual factors?
2. How do hormonal contraceptive-related safety considerations specific to HIV-positive populations' impact on female ALHIV contraceptive use behaviours?

3. How do the contraceptive practices, preferences, and needs of adolescent girls differ by route of HIV acquisition?
4. How do female ALHIV clients' contraceptive behaviours, service provision, quality perceptions and satisfaction with services, and unmet need for contraception vary with age-dedication of access sites for HIV treatment and care services, that is, youth-only or all-ages access sites?
5. How do HIV-related service providers describe their knowledge, perceptions, and experiences of contraceptive service provision for female ALHIV in HIV care?

1.3.2 Overall research aims and specific objectives and hypotheses

This thesis aims to explore the contraceptive behaviours and needs of female ALHIV in urban townships in Western Cape, and identify the contextual factors affecting access to and utilisation of contraceptive services from both providers' and female ALHIV clients' perspectives, as well as make recommendations for optimal contraceptive services in HIV programmes.

The specific objectives are as follows:

1. To describe the demographic, psychosocial, inter-personal, socio-cultural, and socio-economic factors that influence contraceptive behaviours and related outcomes among female ALHIV.
2. To investigate whether hormonal contraceptive-related safety considerations specific to HIV-positive populations impact female ALHIV contraceptive use behaviours.
3. To investigate how the contraceptive practices, preferences, and needs of horizontally infected female ALHIV (hALHIV) compare and contrast with peri/postnatally female infected ALHIV (pALHIV).
4. To investigate whether models (access sites) of HIV-related services that serve only youth lead to greater contraceptive service uptake and provision, perceptions of higher quality

and greater satisfaction, and lower rates of unmet needs for contraception and unintended pregnancy among female ALHIV.

5. To describe the knowledge, perceptions, and experiences/practices of HIV-related service providers, in terms of contraceptive service provision and utilisation for adolescent girls in HIV care.
6. To use research findings related to the objectives mentioned above to make policy and programmatic recommendations to provide female ALHIV clients with optimal access to contraceptive services.

The specific hypotheses to be tested using quantitative analysis are:

1. H1: The following factors will be significantly associated with contraceptive behaviours and related outcomes among female ALHIV: individual, psychosocial, interpersonal, community and societal factors.
2. H2: Female ALHIV that consider themselves at risk of hormonal contraceptive related side effects are less likely to use hormonal contraceptive compared to their peers that do not consider themselves to be at risk.
3. H3: There will be a significant difference between female pALHIV and hALHIV in terms of contraceptive practices, preferences, and needs.
4. H4: Female ALHIV accessing HIV care services at stand-alone youth clinics are more likely to have higher contraceptive use, receipt of contraception services, service quality perceptions and satisfaction, and lower unmet needs for contraception compared to their peers accessing HIV care services at general PHC clinics for all ages.

1.4 Conceptual framework

Two theoretical frameworks guided this study: 1) the Socio-Ecological Model (SEM) and 2) Donabedian's Quality framework (Bronfenbrenner., 1979; Donabedian., 1980). The Socio-Ecological Model (Figure 1.1) is the overarching framework used here because it reflects the multiple factors (e.g., individual, relational, community and societal) that must be considered

when investigating access to healthcare and in designing interventions to improve access to health services. However, the SEM does not account for structure and process variables within the healthcare delivery system. To better understand these multidimensional influences on access to and use of health services, Donabedian's Quality framework (Figure 1.2) will be used as well. This framework provides a guide for the evaluation of the impact of institutional (here, healthcare facility) structures and processes on health outcomes.

The central precept of Bronfenbrenner's (1977, p. 518) ecological perspective is that human development occurs within a multileveled set of nested and changing social contexts and that the interactions within and between these contexts influence behaviours. One problem that limits the utility Bronfenbrenner's original ecological conceptual framework is its lack of specificity regarding which specific social context attributes should be measured (McLeroy et al., 1988). Borrowing from Bronfenbrenner's work on ecological models, McLeroy et al. (1988) developed a conceptual framework to guide researchers' understanding of the factors associated with health problems. Like Bronfenbrenner's model, McLeroy et al.'s SEM framework also conceptualise human behaviour as influenced by multiple levels of social contexts.

Toska et al. (2017) demonstrated the relevance of the ecological model as a framework in accounting for influences on sexual health and behaviour among HIV-positive adolescents and young adults (Toska et al., 2017). Using data from published studies related to sexual risk-taking among young people living with HIV, Toska et al.'s (2017) variant of Bronfenbrenner's ecological model identifies factors related to sexual risk-taking among HIV-positive adolescents and young adults at multiple levels, each of which can be targeted through intervention. The SEM model was also used by Hagey et al. (2015) to conceptualise barriers to and enablers of contraception use among HIV-positive adolescent girls as a multidimensional construct including individual, interpersonal, institutional and societal/public policy factors.

The conceptual model for this research (see Figure 1.3) was developed by drawing upon a modified version of the SEMs described by McLeroy et al. (1988), DiClemente et al. (2005), Hagey

et al. (2015), Toska et al. (2017) and constructs from Donabedian's Quality Framework. This combination allowed for the creation of an appropriate model for this research.

Within the proposed research framework, access to and the use of contraception among HIV-positive adolescent girls are considered to be influenced by:

1. Individual-level factors: Socio-demographic, psychosocial, behavioural factors, HIV-related factors (e.g. HIV-acquisition route, CD4 lymphocyte count, ART use and adherence as well), knowledge, attitudes and perceptions.
2. Interpersonal-level factors: family, peer, provider and partnership factors. HIV-related factors (e.g. serostatus disclosure to sexual partners and serodiscordant partnerships).
3. Community-level factors consist of societal or cultural norms and stigma.
4. Structural-level factors: structures (setting) and processes (quality dimensions) of care, broader political and socio-economic issues, including laws and policies related to contraception as well as poverty.

Figure 1.1 Bronfenbenner's SEM

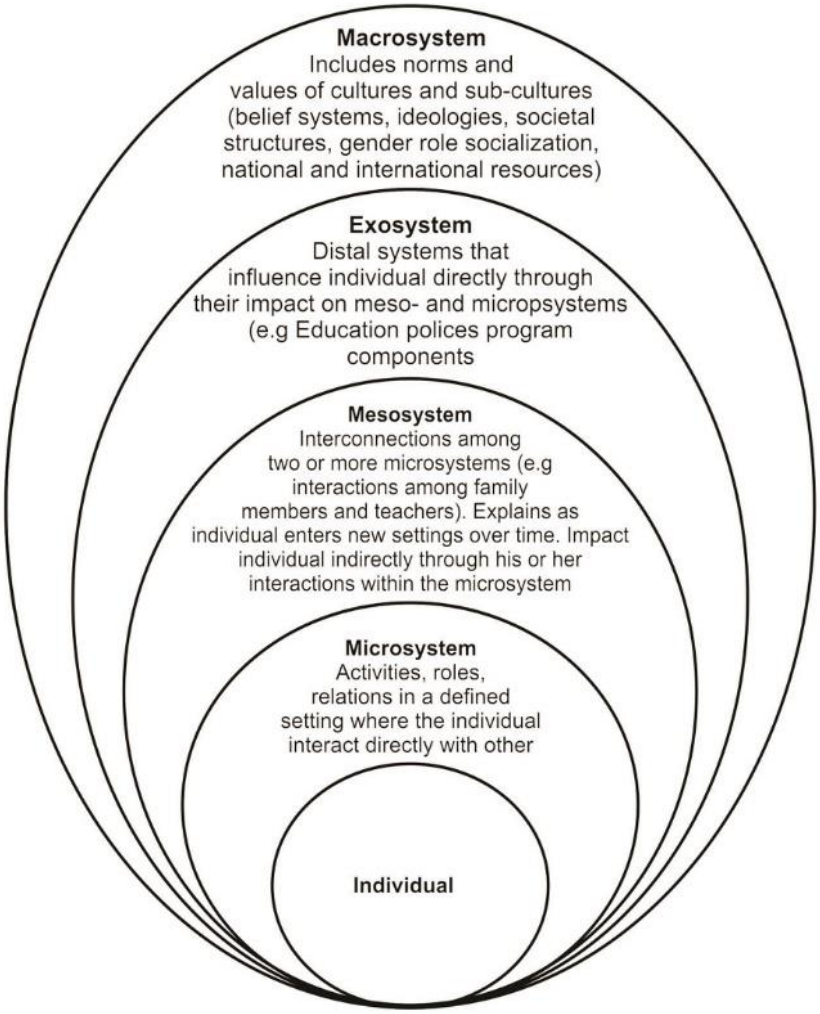


Figure 1.2 Donabedian's Quality Frame Work

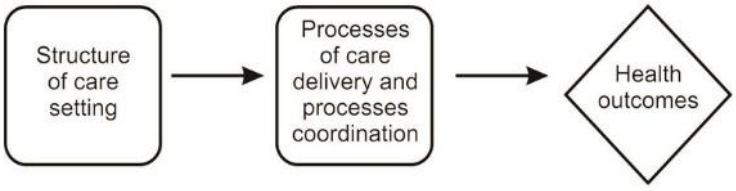
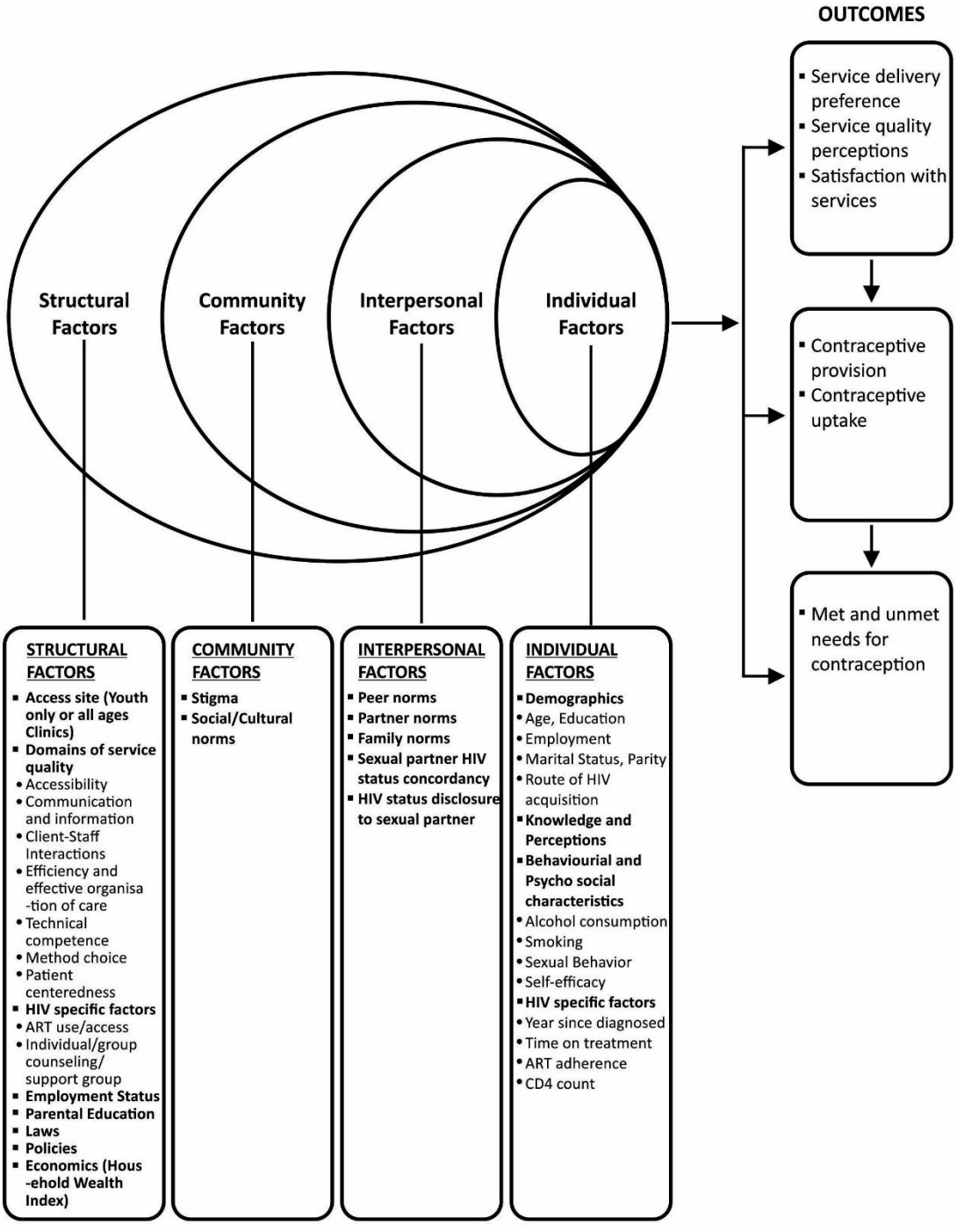


Figure 1.3 Conceptual Model of Multidimensional influences on Contraceptive Service Delivery and Utilisation for HIV-positive Adolescent girls.



1.5 Structure of the thesis

This thesis comprises ten chapters as follows:

1. Chapter 1: Introduction. This chapter presents the background information; research context; research questions, hypotheses, and objectives; and conceptual framework for the study.

2. Chapter 2: Literature review. This chapter summarises and synthesises the relevant literature related to the burden of HIV, contraceptive practices, and the determinants of contraceptive access and utilisation.

3. Chapter 3: Methodology. This chapter covers study setting and population, research design, data collection and analytic procedures, as well as data triangulation, and ethical considerations.

4. Chapter 4: Response rates and profile of cross-sectional study participants. This results chapter covers the survey response rate, item response rates, and profile of cross-sectional study participants.

5. Chapter 5: Factors influencing contraceptive practices among female ALHIV attending PHC services. This chapter presents the study's results on the multilevel factors affecting indicators of contraceptive utilisation among female ALHIV.

6. Chapter 6: The relationship between mode of HIV acquisition, contraceptive service uptake and service delivery. This chapter presents the study's results on the independent association between mode of HIV acquisition and the measures of access to and use of contraceptive services, and service delivery preferences among female ALHIV.

7. Chapter 7: Hormonal contraceptive-related safety considerations and contraceptive use among female ALHIV. This chapter presents the study results of the independent association between perceived hormonal contraceptive-related safety considerations specific to HIV-positive populations and the current contraceptive method use among female ALHIV.

8. Chapter 8: Contraceptive service quality, uptake, and models of HIV care**.** This chapter presents the study results of the independent association between the measures of contraceptive uptake, service quality perceptions, satisfaction and clinic model.

9. Chapter 9: Provider perceptions of contraceptive service delivery in the context of HIV. This chapter presents the response rate and the background characteristics of Individual In-depth Interview (IDI) respondents (providers), and the findings from the qualitative interviews.

10. Chapter 10: Discussion and conclusions. This chapter presents the key research findings and the implications of the research findings for contraception programs for ALHIV in urban townships in South Africa, as well as the relative strengths and limitations of the research design, recommendations for further research, and concluding remarks.

2. Literature review

Introduction

This literature review covers topics related to the burden of HIV, contraceptive practices, and the determinants of contraceptive access and utilisation among female ALHIV (mainly females), including individual, socio-cultural and community, and structural factors. Where no information is available on ALHIV, the literature review draws insights from relevant groups, such as the general population of adolescents, and the general population of youth and WLHIV (see Appendix 1 for the literature search strategy).

2.1 Burden of HIV in adolescents

Adolescents aged 10–19 years constitute approximately one-fifth (18%) of the world's population (United Nations., 2011). According to a UNAIDS report, people aged 10–14 and 15–19 are considered younger and older adolescents, respectively (UNAIDS., 2013). In 2012, there were an estimated 1.2 billion adolescents globally (United Nations Population Division., 2012), and around 600 million (50%) were female (UNFPA., 2014). Worldwide, of the estimated 36.7 million PLHIV in 2016, about 2.1 million (6%) were adolescents between the ages of 10 and 19; these data included hALHIV and pALHIV (UNAIDS., 2017). Among the 2.1 million ALHIV, 770,000 were younger adolescents older (age 10 – 14 years) and 1.3 million older (age 15 – 19 years) were older adolescents (UNAIDS., 2017). Ninety per cent of the estimated 770,000 younger ALHIV lived in sub-Saharan Africa (UNAIDS., 2017). The cohort of older ALHIV has expanded with an increasing population of pALHIV surviving (UNAIDS., 2017).

About 260,000 older adolescents (between the ages of 15 and 19) were newly infected with HIV in 2016 alone (an average of approximately 712 per day); accounting for over 12% of new HIV infections globally (UNAIDS., 2017). The absolute number of ALHIV has increased from 2.0 million in 2009 to 2.1 million in 2016, an increment of approximately 5% over six years (UNAIDS., 2017). The estimated number of younger ALHIV increased by about 300% from 2001 to 2012, from

250,000 to 900,000 (UNAIDS., 2013), suggesting that the vast majority of pALHIV children in the era of ART are surviving into adolescence. In contrast, there was an estimated 8% decline in the number of older ALHIV (15–19 years) during the same period (UNAIDS., 2013). Globally, AIDS-related deaths among adolescents increased by about 200% between 2001 and 2012 (from 38,000 to 107,000) (UNAIDS., 2013).

The global aggregate data on the adolescent HIV epidemic masks regional and national differences (Idele et al., 2014). The UNAIDS global data on HIV and AIDS among adolescents by region found that sub-Saharan Africa accounted for the highest-burden of HIV epidemics among adolescents; accounting for more than 80% (1.7 million) of the world's 2.1 million ALHIV and approximately 75% of new HIV infections globally (UNAIDS., 2017). Within sub-Saharan Africa, Eastern and Southern Africa have the highest burden of ALHIV, accounting for about three out of four (76.5%) ALHIV in the region (Idele et al., 2014). Table 2.1 shows the estimated number of ALHIV by United Nations Children's Fund Regions and gender. As illustrated in Table 2.2, the gender-specific prevalence rates of the disease vary by region. In 2012, the percentage of female ALHIV ranged from 43% to 58%, with Eastern and Southern Africa having the highest proportions. Although the burden of the disease is much lower in high-income countries, the non-inclusion of data from these nations probably underestimates the actual global burden of HIV among adolescents in 2012. The burden of new HIV infections among older female adolescents was calculated by UNICEF region, including high-income countries, in 2016 (UNAIDS., 2017) (Table 2.2). Table 2.2 shows a pattern similar to that in 2012, with Eastern and Southern Africa having the highest percentages of new HIV infections among older female adolescents (UNAIDS., 2017).

The UNAIDS 2017 data reported that 61% of ALHIV are females. Also, females disproportionately accounted for 67% of new infections among older ALHIV (UNAIDS., 2017). In Sub-Saharan Africa, female adolescents are disproportionately infected with HIV compared to their male counterparts. These sex-based differences in HIV infections among ALHIV are linked to horizontal HIV infections. In Eastern and Southern Africa, where sex-based differences in HIV infections among ALHIV are particularly pronounced, the estimated number of horizontally infected older

ALHIV is over two-fold higher in females than males (UNAIDS., 2017). The factors that make female adolescents disproportionately vulnerable to HIV in most low- and middle-income countries include gender discrimination, gender-based violence, limited knowledge about HIV transmission and ability to negotiate condom use, and limited access to sexual and reproductive health services (SRH) (Idele et al., 2014; UNAIDS., no date).

In contrast, the HIV infection rate in most countries outside sub-Saharan Africa is considerably higher among adolescent males (Idele et al., 2014; UNAIDS., 2017). These gender disparities in nearly all countries with low and concentrated HIV epidemics are linked to the heightened risk of HIV among key adolescent populations, such as adolescent men having sex with men and injection drug use (Idele et al., 2014). The Demographic and Health Survey data from high-burden countries such as Ugandan, Swaziland, South Africa and Botswana revealed apparent disparities in gender-specific prevalence rates of HIV during adolescence and young adulthood: female youth had higher prevalence rates than their male peers (UNFPA., 2014; Idele et al., 2014). For instance, data from the 2012 South African national survey of HIV burden suggested that HIV prevalence among older female adolescents (5.6%) was up to eight times the rate among their male counterparts (Shisana et al., 2014).

In South Africa, data on the burden of HIV among the general adolescent population are lacking. Aside from the information on gender-specific HIV prevalence previously described among older adolescents, age-disaggregated data from South African-based surveys have typically aggregated HIV among the general adolescent population in the age groups 0–14 and 15–24 years, which makes it difficult to refine the data on the disease burden among the general adolescent population. Data from the South African National Antenatal Sentinel HIV survey, conducted in 2011, revealed that the HIV prevalence among older female adolescents was approximately 13% (Department of Health., 2011). In 2010, the estimated HIV prevalence among pregnant younger adolescents was 9.1% (Department of Health., 2010).

In summary, the population of older ALHIV is growing as more pALHIV are surviving into adulthood. Sub-Saharan Africa bears the highest burden of HIV among adolescents, particularly among female adolescents. A better understanding of female adolescents' contraceptive behaviours and the distinct needs of hALHIV and pALHIV is needed to reduce the rates of HIV transmission and unintended pregnancy.

Table 2.1: Estimated number of adolescents aged 10-19 years living with HIV by United Nations Children's Fund regions, 2012(Source: Idele et al; 2014).

UNICEF Regions	**Estimated number of adolescents living with HIV aged 10-19 years in 2012**	**Percent of the estimated number of females adolescents living with HIV (aged 10-19) in 2012**
Sub-Saharan Africa	1,700,000	58
Eastern and Southern Africa	1,300,000	59
West and Central Africa	390,000	56
Middle East and North Africa	17,000	52
South Asia	130,000	49
East Asia and the Pacific	110,000	51
Latin America and the Caribbean	81,000	43
Central and Eastern Europe and the Commonwealth of Independent States	22,000	52
Global	2,100,000	56

Table 2.2: Proportion of the estimated new HIV infections among adolescents (aged 15-19) that are among girls, by UNICEF region, 2016 (Source: UNAIDS 2017 estimates)

UNICEF regions	Percent of the estimated number of new HIV infections among adolescents (aged 15-19) that are among girls
Eastern and Southern Africa	78
West and Central Africa	69
Middle East and North Africa	49
South Asia	47
Eastern Europe and Central Asia	70
Western Europe	42
Latin America and the Caribbean	41
East Asia and the Pacific	38
North America	29
Global	67

2.2 Contraceptive practices of ALHIV

A sizeable body of literature has explored the contraceptive practices of ALHIV, mainly pALHIV adolescents and the general ALHIV population; however, little research has examined the contraceptive practices of ALHIV by HIV acquisition route. Thus, a rigorous insight into the contraceptive behaviours and needs of the distinct groups of ALHIV - pALHIV and hALHIV- is essential given the evidence base on their differing sexual behaviours. Also, understanding the

context of contraceptive behaviours and needs of female ALHIV, in general, is essential to address their needs. Contraceptive practices, including method use consistency, method mix, dual contraception, contraceptive prevalence rates and the unmet need for contraception of female ALHIV, are reviewed in this section.

Studies conducted in the United States have generally found that over half of ALHIV in care had engaged in sex without a condom after learning of their HIV serostatus (Murphy et al., 2001; Koenig et al., 2010). Data from the Reaching for Excellence in Adolescent Care and Health (REACH) cohort study of adolescents in HIV care (conducted at 15 clinical sites in the United States), which included repeat measures of the sexual behaviours of 323 sexually-active ALHIV (aged 13–18) across six study visits, showed that approximately 43% of the study sample consistently reported sex without a condom at last heterosexual intercourse (Murphy et al., 2001). One small study in the United Kingdom included pregnant ALHIV aged 13–19 and demonstrated the same trend (Elgalib et al., 2011). The study, which attempted to provide demographic information by the HIV-acquisition route failed to disaggregate data on contraceptive use. The same United Kingdom's study reported conception in over 25% of pregnant ALHIV within a year of having given birth (Elgalib et al., 2011). The percentage of inconsistent condom use is substantial, as low as 27% among ALHIV in the United States who used condoms as their sole contraceptive method and 61% among ALHIV in Zambia (Belzer et al., 2001; Ndongmo et al., 2017). Perhaps the most probable explanation for the inconsistent condom use among adolescents in different countries has been related to the perception of sexual pleasure loss associated with sex without a condom (Ahmed et al., 1990; Buck et al., 2005; Versteeg et al., 2008; Lucea et al., 2013). In Spain, 75% of ALHIV were not on contraception despite not wanting to conceive (Echenique et al., 2017). In Zambia, McCarraher and colleagues (2018) found that approximately three-fifths of female ALHIV used contraception at last sex; and a vast majority of female ALHIV who used contraception at last sex used male condoms.

Additionally, studies have still found relatively inconsistent use of effective contraceptive methods among female ALHIV across developed and developing countries; the estimated rates have been between 44% and 56% (Belzer et al., 2001; Birungi et al., 2008). One such study

reported substantial differences in the use of effective forms of contraception between hALHIV female adolescents and their HIV-negative counterparts (56% vs 44%, $p < 0.0001$) (Belzer et al., 2001). Overall, the little research that examined contraceptive use consistency among female ALHIV failed to disaggregate data by HIV-acquisition route, and the only review on the reproductive health behaviours, including contraceptive behaviours, of ALHIV and young adult WLHIV, did not identify any studies that disaggregated findings by HIV-acquisition route (Carter et al., 2013), a fact probably explained by the lack of such data.

Studies comparing female ALHIV to their HIV-negative counterparts in terms of the contraceptive methods have shown unequivocal results about the frequency, or consistency, of condom use and contraceptive pills. However, the findings on other contraceptive methods were mixed. Studies have consistently found condom use to be higher and more consistent in ALHIV compared to their HIV-negative counterparts (Studentvart et al., 2001; Belzer et al., 2001; Obare et al., 2010b; Robinson et al., 2014; Sadeghi et al., 2015). Studies have also generally found that the use of pill contraception alone was lower among female ALHIV compared to their HIV-negative counterparts (Belzer et al., 2001; Robinson et al., 2014; Sadeghi et al., 2015). Wayenze et al. (2013) revealed that the lower intake of pills among both HIV-positive adult and adolescent women was influenced by concerns regarding additional pill burden (i.e. antiretroviral therapy [ART]) (Wayenze et al., 2013). Based on self-reported contraception use rates gathered at study visits, Belzer et al.'s (2001) longitudinal study in the United States suggested that female ALHIV (when compared to their HIV-negative peers) used injectable contraceptives (21% vs 15%, respectively) and either implants or tubal ligation (2% vs 0%) at higher rates (Belzer et al., 2001). In contrast, data from the only South Africa-specific study to describe the contraceptive behaviours of female ALHIV (including HIV-negative female adolescents) in urban townships in Western Cape, South Africa demonstrated lower rates of injectable contraceptive use in ALHIV (compared to HIV-negative peers) (3% vs 8%, respectively) (Sadeghi et al., 2015).

In terms of sexual behaviour, ALHIV do not constitute a homogeneous group. Koenig et al. (2010) reported significantly higher current sexual activity for hALHIV than for pALHIV (Koenig et al.,

2010), suggesting that these two groups differ in their contraceptive practices and needs. In a single-centre, cross-sectional study of 33 female ALHIV (ages 15–25 years; 46% hALHIV) in the United States, the use of some method of modern contraception was higher among female hALHIV (93% vs 83%, respectively) (Atrio et al., 2013). While the use of condom and injectable contraceptives alone (precisely DMPA) was greater among female pALHIV, female hALHIV were more likely to use long-term reversible contraceptives (either implants or intrauterine hormonal devices). Additionally, contraceptive pills were used infrequently by both groups, and the proportion of females using contraceptive pills was similar among hALHIV and pALHIV (Atrio et al., 2013). Atrio et al.'s study was the only study that compared the contraceptive practices of ALHIV by HIV-acquisition route and also suggested that hALHIV have a significantly higher number of lifetime pregnancies than pALHIV.

For WLHIV, dual method protection with both a male or female condom and another effective contraceptive rather than dual protection with condom alone is the standard and most effective contraceptive option because it minimizes HIV transmission risk and is more effective in preventing pregnancy (Kancheva Landolt et al., 2011). For sexually active female ALHIV, in particular, the need to prevent HIV transmission risks such as HIV-reinfection, transmission to uninfected partners and perinatal transmission, as well as, consequences associated with unintended adolescent pregnancy is an important motivation for dual-method use (Kancheva Landolt et al., 2011). There is limited evidence on dual method contraception among female ALHIV (Belzer et al., 2001; Oliveras & Makumbi., 2013; Robinson et al., 2014). Research from U.S based studies suggest relatively low uptake of dual method contraception among female ALHIV, and findings on dual method contraception use by HIV-status were mixed (Belzer et al., 2001; Robinson et al., 2014). One longitudinal U.S study demonstrated that female ALHIV (compared to HIV-negative female adolescents) were slightly more likely to use dual method contraception (male condom and injectable or oral contraceptives) during their study visits (16% vs 12%)(Belzer et al., 2001). The second and more recent U.S based study, carried out using a cross-sectional design, found that female ALHIV (aged 13-21) reported lower use of dual method contraception than their HIV-negative counterparts (OR 0.58, 95% CI 0.17-2.03); however, the study failed to

explain the reasons for the differential uptake of contraception by HIV status. Also, based on the proportion female ALHIV and HIV-negative female adolescents who relied on condoms alone (75% vs 29%, P=0.005), it can be argued that less than a quarter of female ALHIV in care use dual method contraception (Robinson et al., 2014). In Uganda, 69% of female ALHIV reported dual contraception use (no detailed information on condom subtypes, male or female type) (Oliveras & Makumbi., 2013); however, this finding from the quantitative study in Uganda should be interpreted with caution, because dual contraception use was evaluated among 13 female ALHIV and may not be generalizable to the general population of ALHIV in the country. Furthermore, based on the relatively low rates of condom use or any contraceptive method use noted in the earlier mentioned Ugandan studies of ALHIV (Birungi et al., 2008; Birungi et al., 2009a; Olivera & Makumbi., 2013), the reported rate of dual method contraception (69%) might be by chance. The relatively low rate of dual method contraception in female ALHIV, perhaps suggesting a need for better understanding of the contraceptive use behaviours among this sub-group of adolescents.

Available research findings on contraceptive prevalence rate and unmet contraception needs among female ALHIV further suggest the need for strategies for holistically addressing contraception for ALHIV. The CPRs have been documented to be as low as 35% among female ALHIV in Uganda (Oliveras & Makumbi., 2013), and as high as 66% among their counterparts in Kenya (Obare et al., 2010a). The findings from the Ugandan study should be interpreted with caution, given the tiny sample of ALHIV in the study. The same Ugandan study also suggest that female ALHIV encounter more difficulties in accessing and using contraceptive services in HIV care, compared with older WLHIV. Female ALHIV have a lower CPR (ranging from 23% to 34%) than WLHIV in the older five-year age groups (ranging from 39% to 43%), except for women who were 40 or more years of age (Obare et al., 2010a).

Moreover, the unmet need for contraception (24%) is also higher in female ALHIV than their counterparts aged 20 years and above (14% to 20%) (Olivera & Makumbi., 2013). Aside from the paucity of data specific to the contraceptive behaviour of ALHIV, the typical descriptive study

design of existing studies limits information on the contextual factors that influence contraceptive uptake and the unmet needs for contraception among female ALHIV

In summary, the data above suggest a clear unmet needs for contraception among ALHIV, and further understanding of contraceptive behaviours and needs of ALHIV is needed to increase contraceptive uptake and utilisation. Strengthening health systems for ALHIV contraception data by mode of HIV acquisition –pALHIV and hALHIV – may shed further insight into the distinct contraceptive behaviours and needs pALHIV and hALHIV and contribute to the development of differentiated models of contraceptive care for the above separate groups of ALHIV.

2.3 Determinants of contraceptive access and utilisation

The wide range of determinants of youth access to and utilisation of sexual and reproductive health (SRH) services, including contraception, have been categorised into three overall categories: individual, socio-cultural and structural factors (Simon et al., 2015).

2.3.1 Individual-level factors

This section describes the influence of demographic, behavioural and HIV-related factors on contraceptive access and utilisation, including the influence of HIV-related safety concerns regarding hormonal contraception.

Demographic, behavioural and HIV-related factors

Research on the determinants of contraceptive service access and utilisation has addressed demographic and psychosocial factors such as age, education, parity, self-efficacy, substance use and knowledge about contraception. Only one previous study indicated the influence of age on the utilisation of contraception among female ALHIV. This study, conducted in Uganda, included pALHIV and found that a lower proportion of younger female pALHIV (15–17 years) used

contraception than their older peers (18–19 years) (55% vs 37%, respectively). The same Ugandan study reported higher sexual activities among older adolescents, which is a possible explanation for the age difference in contraceptive utilisation between younger and older pALHIV (Birungi et al., 2009b). Studies have even documented increased contraceptive use with increased age among the general adolescent and young adult population (Katz et al., 2000; Nsanya et al., 2019). In comparing adolescents who used condoms, Van Horne et al. (2009), found no significant differences in condom by age. Also, a mixed-methods study conducted in Kenya demonstrated no significant variation in contraceptive use by age among adolescents (Kinaro et al., 2015).

Multiple studies revealed that providers imposed restrictions on adolescent and young adults' access to contraception based on parity status (Chilinda et al., 2014; Schwandt et al., 2017). In addition, one study based on the recent DHS and multiple indicator surveys conducted in Low- and middle-income countries explored the link between parity, marital status and contraceptive uptake, and found that contraceptive prevalence was particularly low among married female adolescents without children compared to their counterparts who were not married or married with children (de Vargas et al., 2019). Atrio et al. (2013) found that compared to female pALHIV, female hALHIV were more likely to have had one live birth (93% vs 17%, respectively) (Atrio et al., 2013). In addition, Atrio et al. (2013) revealed non-significant higher rates of DMPA or condom use among female pALHIV compared to their hALHIV counterparts, who had non-significant higher rates of long-acting reversible contraceptives or DMPA; suggesting that parity may not be associated with contraceptive use among ALHIV (Atrio et al., 2013). Atrio et al. (2013) concluded that the non-significant differences in contraceptive use were because of the small sample size (Atrio et al., 2013).

Several studies have described the relationship between contraceptive use and the education level of adolescents and young adults, but the findings have been mixed. An analysis of representative data on first-year high school students in two Swedish cities found that contraceptive use is higher among participants attending 'academic' (college preparatory study

programmes) than their peers attending 'practical' (vocational-educational) study programmes (Haggstrom-Nordin et al., 2002). In a mixed-gender of sample of adolescents aged 15–19 years in Ethiopia, Feleke et al. (2013) found that those with formal education (i.e. at least primary education) were more likely to utilise family planning services than their peers with no formal education; this association was statistically significant for secondary education and above in the multivariate analysis (AOR = 9; 95% CI: 1.45–54.14) (Feleke et al., 2013). Similar findings were demonstrated among adolescents and young adults in different contexts, including Uganda, Tanzania, Spain and Britain (Wellings et al., 2001; Martin et al., 2005; Nsanya et al., 2019). Obare et al. (2012) demonstrated a positive dose-gradient relationship between postpartum contraceptive use and educational attainment among female ALHIV; however, it found no statistically significant association on multivariate analysis (Obare et al., 2012). Similarly, several researchers have found that condom or contraceptive use is not significantly associated with adolescent and young adult education level (Adih & Alexander., 1999; Meekers & Klein., 2002; Van Horne et al., 2009), nor has currently being in or out of school been found to be associated with condom utilisation (Van Horne et al., 2009; Meekers & Klein., 2002).

Self-efficacy, defined as one's beliefs about his or her abilities to execute a particular task or behaviour in a specific situation (Bandural., 1986), can also influence contraceptive behaviour. One United States-based, multi-site sample of HIV-positive youth demonstrated that self-efficacy for safer sex directly predicted condom use (Outlaw et al., 2010). Several studies, conducted within and outside sub-Saharan Africa, have found that self-efficacy was positively associated with contraceptive use among the general population of adolescent and young adult women (Levinson., 1982; Richard & van der Pligt., 1991; Heinrich., 1993; Crosby et al., 2001; Miller et al., 2001; Meekers & Klein., 2002; Longmore et al., 2003; Wang et al., 2004; Nsanya et al., 2019). Richard and van der Pligt (1991) and Levinson (1982) also found self-efficacy to be the most significant positive determinant of condom and contraceptive use among adolescents and college women, respectively (Levinson., 1982; Richard & van der Pligt., 1991).

Results from studies examining the link between substance abuse and contraceptive use among adolescents have been mixed, and the links are yet to be explored among HIV-positive youth. Studies from Taiwan and the United States have found no association between substance use and contraceptive use and consistency (Wang et al., 2004; Hacker et al., 2000). However, other studies have shown that substance use may impact contraceptive utilisation in adolescence and young adulthood. For example, Khadr et al. (2016) revealed a strong positive association between substance use (defined as frequent binge drinking at least once a week or recent drug use within the past four weeks) and non-condom use (i.e. unprotected sex) at the first sexual exposure to one or more new partners; however, emergency contraceptive use was also strongly associated with substance use. Similar non-condom use was observed in other studies on substance use (alcohol or marijuana) among female adolescents and young adults (Hingson et al., 1990; Cooper., 2002; Hensel et al., 2011), which may be due to the reduced inhibitions and impaired judgement resulting from substance use (Khadr et al., 2016).

Fertility desire has been demonstrated in several studies to impact contraceptive use, but the findings of the studies consistently point to a negative association between fertility desire and contraceptive use (De Silva., 1991; Roy et al., 2003; Schoemaker et al., 2005). One rare large example draws on health service data among women with unknown HIV status in Kenya. The Kenyan study, a cross-sectional evaluation, found LARC use varied significantly with fertility desire; while the odds of LARC use decreased by 70% among women wanting another child within two years compared to those who wanted no more children, the odds of LARC use decreased by 22% among women who desired another child after two years compared to those who wanted no more children (Omo-Adjei et al., 2019). Also, a secondary analysis of DHS data of Kenya has found not having the desire for more children was positively associated with contraceptive use (Anand et al., 2009). While studies show that a considerable proportion of ALHIV expressed a desire for pregnancy at one point in the future (Ezeanolue et al., 2006; Finger et al., 2012; Finocchario-Kessler et al., 2012), there remains a dearth of information on the impact of pregnancy desire on contraceptive use among ALHIV which prevention and policy may aim to impact.

Access to and use of contraception among ALHIV may also be influenced by several individual HIV-related characteristics, such as mode of infection, time since HIV diagnosis, adherence to ART, time on ART treatment and CD4 count (Toska et al., 2017). A few studies reported relationships between condom use/safer sex and the above-mentioned individual HIV-specific factors, but information on the links between these factors and use of contraceptives other than condoms was not provided (Kaggwa & Hindin., 2012; Mhalu et al., 2013; Toska et al., 2015). Kaggwa and Hindin (2012) and Toska et al. (2015) explored the determinants of safe sex among ALHIV and HIV-positive young adults. They concluded that time since HIV diagnosis, adherence to ART and time on ART were not significantly associated with condom use among ALHIV and young adults (Kaggwa & Hindin., 2012; Toska et al., 2015). Findings on the relationship between mode of infection (i.e. HIV acquisition route) and condom use have been inconsistent (Kaggwa & Hindin., 2012; Mhalu et al., 2013; Toska et al., 2015). For example, Toska et al. (2015) analysed multicentre data from Eastern Cape, South Africa and found that a vertical mode of infection was associated with an increased rate of unsafe sex. However, the mode of infection was not associated with condom use among HIV-positive youth in Uganda (Kaggwa & Hindin., 2012). No previous studies have examined the relationship between CD4 lymphocyte count and contraceptive behaviour among ALHIV and HIV-positive young adults.

Adolescents' knowledge, attitudes and perceptions towards contraception may also impact their access to and use of contraception. The results of the data from the Demographic and Health Surveys conducted in developing nations, mainly Asia, Latin America, and northern and southern Africa, found a weak association between adolescents' knowledge about modern contraceptives and the utilisation thereof (Curtis et al., 1996). This inverse association was also reported by Williamson et al. (2009). However, some studies showed that knowledge about contraception is positively related to its use among adolescent population (Wang et al., 2004; Kinaro et al. 2015; Nsanya et al., 2019). Qualitative interviews conducted among adolescents in South Africa highlighted that a lack of knowledge about contraception was one of the barriers to obtaining contraceptives (Wood & Jewkes., 2006). Very few studies evaluated the contraceptive knowledge of HIV-positive adolescents, and none tested the association between contraceptive knowledge

and use. Furthermore, findings on contraceptive knowledge and use among ALHIV suggested an inverse relationship between contraceptive knowledge and use: one mixed-method Kenyan study showed a mismatch between relatively high overall knowledge about contraceptive methods and actual use among ALHIV (Birungi et al., 2008). Similarly, a recent study in Botswana found that the use of contraception was low among female ALHIV, despite their relatively high knowledge about contraception (Adeyemi et al., 2014). This variation has been attributed to misconceptions about the side effects of contraceptives, infrequent sex, the perception of low pregnancy risk and a lack of information about how to use a given contraceptive method (Birungi et al., 2008; Adeyemi et al., 2014; McCarraher et al., 2018). The literature on perceptions towards contraception is described further in the following subsection.

Perceptions of contraception and safety concerns

Concerns about safety are fundamental to contraceptive uptake and are reported to be one of the reasons for contraceptive discontinuation among adolescents (Bellizzi et al., 2019., Cohen et al., 2019). In addition to experiencing the same physical and emotional side effects of hormonal contraception as HIV-negative women, such as menstrual disorders, weight gain, depression and anxiety (Laher et al., 2009; Imbuki et al., 2010; Laher et al., 2010, Todd et al., 2011; Bengtson et al., 2013), WLHIV may also have safety concerns that stem from epidemiological and pharmacokinetic/biological evidence, such as HIV progression, HIV transmissibility (i.e. female-to-male HIV transmission) and specific drug-drug interactions between hormonal contraceptives and ART (Curtis et al., 2009).

Published systematic reviews synthesised the findings of studies that assessed the direct or indirect effects of hormonal contraception on HIV progression or sexual transmission of HIV. In 2013, Phillips et al. published a systematic review of 11 observational studies and one randomized controlled trial (RCT) to assess the association between hormonal contraceptive methods and measures of HIV disease progression, including progression to AIDS, death, or ART initiation, or composite outcome consisting progression to AIDS, death, or ART initiation among postpartum WLHIV in Zambia. The observational studies were designed to assess the association

between the measures of HIV disease progression and hormonal contraceptive methods including injectable contraception, oral contraceptive pills (OCPs), or levonorgestrel (LNG) IUDs. None of the observational studies found a significant association between the use of any hormonal contraceptive method and measures of HIV disease progression. The RCT assessed the relationship between the measures of HIV disease progression and injectable DMPA, combined OCPs and copper IUD (Phillips et al., 2013). The results of the RCT show that DMPA was associated with statistically significant elevated risks of HIV disease progression to AIDS or ART initiation compared to copper IUD in both intention to treat (ITT) and actual use analysis. Oral contraceptives were also statistically significantly associated with HIV disease progression to AIDS or ART initiation compared to copper IUD use in only the ITT analysis. Both injectable DMPA and OCPs were significantly associated with elevated risks of the composite measure of HIV disease progression in both the ITT and actual use analysis (Stringer et al., 2007). Phillips et al. (2016) updated the earlier systematic review with one prospective cohort data from 2269 WLHIV in seven Eastern and Southern African countries (Heffron et al., 2013). The multi-country study of 2269 WLHIV found that injectable contraception was associated with significantly reduced risks of a composite measure of HIV disease progression, defined as ART initiation, progression to AIDS or nontraumatic death, while OCPs were not associated with any statistically significant difference. Like most epidemiological or laboratory studies within whether hormonal contraception alters WLHIV's elevated risks of HIV disease progression or female-to-male HIV transmission, the study by Heffron et al. (2013) failed to disaggregate data by the sub-types of injectable contraception or OCPs.

A published systematic review of the effects of hormonal contraception on sexual HIV transmission from WLHIV to un-infected male partners demonstrated mixed results, among 12 studies, some indicated increased sexual HIV transmission risk with the use hormonal contraception, while others identified no difference by hormonal contraception status (Polis et al., 2013). Of the 12 studies included in the systemic review, only one direct study examined the association between OCPs or injectable contraception and HIV transmission showed a higher risk with injectable contraception. Of the remaining 11 indirect studies, three specifically addressed the association between measures of female-to-male HIV transmission and a particular type or

dose of hormonal contraception, including injectable DMPA, high- and low-dose OCPs, or Norplant (Mostad et al., 1997; Graham et al., 2010; Morrison et al., 2010). Results of the Mostad's study demonstrates a greatest increased risk of measures of female-to-male HIV transmission with high-dose OCPs use, followed by low-dose OCPs use, then injectable DMPA; however, injectable DMPA was not associated with significantly increased risk of measures of female-to-male HIV transmission (Mostad et al., 1997). In Morrison et al's multi-country study, no association was found between either OCPs or injectable DMPA use and measures of female-to-male HIV transmission (Morrison et al., 2010). Phillips et al. (2016) also updated the prior systematic review by Polis et al. (2013) and included three new studies (Lutalo et al., 2013; Low et al., 2014; Day et al., 2014). While the two studies that assessed the association between OCPs or injectable DMPA use and HIV transmission measures found a greater increased risk of measures of female-to-male HIV transmission with OCPs use than injectable DMPA use compared to non-use of hormonal contraceptives (Lutalo et al., 2013; Low et al. 2014), the remaining one new study assessing HIV transmission risk among injectable DMPA users and non- hormonal contraception users indicated an increased risk of measures of female-to-male HIV transmission (Day et al., 2014). In general, the three new studies found no evidence of significantly increased risks of measures of female-to-male HIV transmission with any hormonal contraceptive method evaluated (Lutalo et al., 2013; Low et al., 2014; Day et al., 2014). Although the findings of many studies conflicted, much of the evidence suggests that hormonal contraception may be used by WLHIV without the risk of HIV progression (Phillips et al., 2013; Polis et al., 2013; Phillips et al., 2016). However, there is no conclusive evidence on the impact of hormonal contraception on HIV transmission from WLHIV to uninfected male sexual partners (Polis et al., 2013; Phillips et al., 2016).

Several epidemiological and pharmacokinetic studies also provided data on the effects of drug interactions between ART and hormonal contraception. Two large prospective cohort studies in East and Southern Africa found that pregnancy rates were slightly higher among OCP users taking efavirenz-based ART compared with OCP users taking nevirapine-based ART (Patel et al., 2015, Pyra et al., 2015). One small clinical trial in Australia, Netherland and Thailand found higher ovulation rates among concurrent users of desogestrel/ethinyl estradiol (DSG/EE) containing COC

and efavirenz-based ART than the concurrent users of DSG/EE containing COC and nevirapine-based ART (Landolt., 2013), and another larger clinical trial in South Africa and Uganda found that pregnancy and ovulation rates did not significantly differ between DSG/EE users taking nevirapine-based ART and those yet to initiate ART treatment (Nanda et al., 2013). One small pharmacokinetic study in the US also point to decreased bioavailability of levonorgestrel in healthy HIV–seronegative women after exposure to levonorgestrel-only pills and efavirenz-based ART (Carten et al., 2012). The literature shows that data regarding the impact of ART on injectable contraception are exclusively on injectable DMPA. While pharmacokinetic studies did not demonstrate a clinically significant effect of efavirenz-, nelfinavir-, and nevirapine-based ART on the contraceptive effectiveness of injectable DMPA (Cohn et al., 2007; Nanda et al., 2008Watts et al., 2008), the largest cohort study of WLHIV using injectable DMPA found that pregnancy rates were higher among users of efavirenz-based ART and those yet to initiate ART than those on nevirapine-based ART (Patel et al., 2015). Two studies, including one pharmacokinetic study and one epidemiological study, found that the contraceptive effectiveness of levonorgestrel implants is lower among efavirenz-based ART users compared to nevirapine-based ART users (Perry et al., 2014; Scarci et al., 2016). One pharmacokinetic study found that, while efavirenz-based ART reduced the bioavailability of etonogestrel implants, lopinavir-based ART increased the bioavailability of etonogestrel implants (Vieira et al., 2014). In contrast to the inconsistent effects of ART regimens on hormonal contraceptive effectiveness, a recent systematic review by Nanda et al. (2017) shows that nine studies, evaluating data on whether the efficacy of ART regimens is influenced by hormonal contraception, consistently found that ART efficacy was not significantly affected by any method of hormonal contraception.

In 2012, the World Health Organization (WHO) held a technical consultation to review the systematic reviews prepared by Phillips et al. (2013) and Polis et al. (2013) and to determine whether WLHIV were eligible for hormonal contraception (Phillips et al., 2013; Polis et al., 2013; WHO., 2012). The WHO then recommended that WLHIV may use any hormonal contraception method without restriction (Medical Eligibility Criteria (MEC) Category 1) (WHO., 2012). This guidance laid the groundwork for South Africa's current recommendations on the eligibility

criteria for contraceptive use for those with HIV (Department of Health., 2012a; Department of Health., 2012b). These recommendations, which were provided in the 2012 South Africa's National Contraceptive Guidelines, affirmed the WHO recommendations (Department of Health., 2012a; Department of Health., 2012b). Though WLHIV are eligible for any method of hormonal contraception, in fact evidence suggests HIV-specific safety concerns among WLHIV using hormonal contraception. Very little information is available on hormonal contraception and HIV-specific safety concerns. Multi-country qualitative research by Todd et al. (2011) on contraceptive use by WLHIV found that concerns about the efficacy of ART due to interactions with hormonal contraception influenced some women's contraceptive choices (Todd et al., 2011). The concerns may have led to an increase in unintended pregnancies among WLHIV. The qualitative data from a mixed-methods study of WLHIV aged 15–43 years in Kenya showed that WLHIV were concerned about ART drug interactions with hormonal contraception. However, this information was not delineated by age group (Akelo et al., 2015). Thus, it is unknown whether the perceived risk of drug interactions between hormonal contraception and ART impacted the use and delivery of hormonal contraceptives among female ALHIV. Imbuki et al. (2010), using both focus groups and one-on-one interviews, interviewed WLHIV of reproductive age (18–45 years) living in western Kenya and found that they had a common perception that hormonal contraception would exacerbate their HIV due to amenorrhoea, because of the myth that the virus is lost through menses (Imbuki et al., 2010). Cross-country, qualitative interviews of WLHIV aged 15–45 years in Brazil, Kenya and South Africa also uncovered the myth that hormonal contraception-induced amenorrhoea affects HIV progression; this misconception was most common among the youngest interviewees (Todd et al., 2011). This same multi-country study also highlighted that WLHIV's contraceptive choices were guided by concerns about the efficacy of ART due to interactions with hormonal contraception (Todd et al., 2011). The concerns could have led to an increase in unintended pregnancies among WLHIV. Although Akelo et al. (2015) did not directly report WLHIV (aged 15–43 years) HIV-specific concerns regarding hormonal contraception, they found that the women were deterred from using hormonal contraception due to their partners' concerns; however, this information was not provided by age group (Akelo et al., 2015). Thus, it

is not known whether, for female adolescents, the perceived risk of drug interactions between hormonal contraception and ART impacts their use of hormonal contraception.

2.3.2 Socio-cultural factors

This section describes the influence of dyad, peer, family and provider factors on contraceptive use. It also reviews norms and stigma around adolescent/youth contraception.

Dyad, peer and family factors

HIV-specific dyad factors that may influence sexuality and contraception include a serodiscordant relationship (defined as one in which one partner is HIV-positive, and the other is not), knowledge of a partner's HIV status and disclosure of HIV status to a partner (Toska et al., 2017). Findings on the association between disclosing HIV status to partners and contraceptive use among adolescents have been inconsistent. One U.S. study within HIV care and treatment services conducted in the United States found that disclosure of HIV status to male partners by female adolescents and young adult women was significantly associated with increased condom use (Sturdevant et al., 2001). In contrast, a U.S. study of ALHIV of both genders showed that disclosure of HIV status to partners was associated with unprotected sex (D' Angelo et al., 2001). Furthermore, Toska et al. (2015) found no significant association between the disclosure of HIV-positive status to partners and unprotected sex among adolescents in HIV care in Eastern Cape, South Africa (Toska et al., 2015). However, no studies have examined how serodiscordant relationships shape the contraceptive behaviours of ALHIV. One study addressed this issue among serodiscordant couples in which the women were HIV-positive and found that contraceptive use increased significantly during follow-up, that the use of contraceptive methods other than condoms was associated with the non-use of condoms, and that the most frequently used method of contraception was the injectable method (Hefron et al., 2010). Only two studies examined the relationship between knowing a partner's HIV status and contraceptive use among

ALHIV; these studies showed no relationship between knowing a partner's HIV status and contraceptive use (Mhalu et al., 2013; Toska et al., 2015).

Contraceptive use among adolescents can also be influenced by non-HIV-specific dyad factors such as multiple sexual partnerships, having a child with a partner, living with a partner, marital status, partner age, relationship quality, partner support and child sexual abuse. Studies in Kenya and Zimbabwe attributed higher unintended pregnancies among ALHIV and HIV-positive youth to living with a partner, having biological children with a partner and gender-based violence (Birungi et al., 2011; Nhamo et al., 2013). Marital status can also shape contraceptive use among female adolescents. Using data from Demographic and Health Surveys (DHS) gathered between 1986 and 2006 in 40 developing countries, Blanc et al. (2009) concluded that contraceptive use was higher among unmarried adolescents than married adolescents (Blanc et al., 2009). Using data from the 2008 Ghana DHS, Marrone et al. (2014) restricted analysis to 162 sexually active adolescents and showed that the likelihood of contraceptive use was higher among unmarried female adolescents than for their married counterparts (Marrone et al., 2014). Data from the same 2008 Ghana DHS and 2010/2011 Zimbabwe DHS also revealed that the likelihood of contraceptive use was higher for female adolescents who were married or had ever been married (married, separated, divorced, or widowed) than for unmarried female adolescents (Ngome & Odimegwu, 2014; Nyarko, 2015). Similar findings were noted in a mixed-method study of adolescents in Kenya (Kinaro et al., 2015). Though studies reporting the association between marital status and contraceptive behaviour among HIV-positive young people are lacking, HIV-positive youth who lived with partners were more likely to have unintended pregnancy (Nhamo et al., 2013).

Qualitative studies of female adolescents also highlighted that partner disapproval of contraceptive use was a key barrier to the use of contraception among female adolescents (Wood & Jewkes., 2006; Brown & Guthrie., 2010). For example, Wood and Jewkes (2006) reported that male partners used manipulative tactics such as using physical violence and tearing clinic cards to stop female adolescents from using contraception to prove their fertility or have a

baby (Wood & Jewkes., 2006). On the other hand, several studies also found positive associations between female adolescents' contraceptive use and dyad attributes such as sexual partner communication, longer relationship duration, partner support for contraception and romantic relationships (Kenyon et al., 2009; Feleke et al. 2013; Kinaro et al., 2015; Nsanya et al., 2019). In South Africa, there is mixed evidence on the effects of past experiences of child sexual abuse on an indicator of contraceptive non-use. While forced sexual initiation has been found to increase the risk for teenage pregnancy in township areas of Cape Town (Jewkes et al., 2001), there is contrasting evidence that unintended pregnancies were not associated with first sexual initiation or coerced sex among a cohort of female adolescents in Eastern Cape, South Africa (Christofides et al., 2014). The mismatch between the research questions and secondary data may be a probable explanation for the lack of association between child sexual abuse and unintended pregnancy in the latter study. Koenig et al. (2010) conducted a study among pALHIV and hALHIV in the US and found a positive association between experience of sexual abuse and sex without a condom.

Peers can also influence adolescents' access to and the use of contraception, but the findings have been mixed. Studies have suggested that peer influence can have a profound positive impact on contraceptive use among female adolescents (Adedimeji et al., 2008; Fallon et al., 2010; Ali et al., 2011; Feleke et al., 2013). For example, Fallon (2010) observed that female friends assumed important supporting roles, such as confidante, motivator and advisor, with respect to the use of contraception (Fallon., 2010). In some instances, these crucial supporting roles included physically accompanying hesitant peers to SRH services to negotiate contraceptive provision with service-providers (Fallon., 2010). Ali et al.'s (2011) nationally representative longitudinal study of adolescents in the United States reported that peer social networks played an important role in contraceptive use: a 10% rise in the proportion of peers (classmates) who used contraceptive was associated with a 5% increase in individual adolescent contraceptive use (Ali et al., 2011). In contrast, peer pressure to conceive, peers' experiences of failed contraception and peers' perspectives on side effects were acknowledged by female adolescents as reasons for the non-use of contraceptives (Wood & Jewkes, 2006; Chernick et al., 2015). Meekers et al. found

that peer support was not associated with high levels of condom use among youth in urban cities in Cameroon (Meeker et al., 2002).

Several studies have found that adolescents' contraceptive behaviours can be strongly influenced by family process variables, such as parent-child communication, parent-child connectedness, parental support and family intactness. Parents, especially mothers, may have a significant influence on their female adolescents' contraceptive decision making by either promoting or hindering contraceptive use (Commendador., 2010; Rubin et al., 2016). Wang et al. (2015) evaluated the impact of a brief parent-adolescent sexual communication intervention among 2,564 Bahamas adolescents aged between 13 and 17 years, and they reported that the intervention led to higher condom use skills and self-efficacy among adolescents. In a recent meta-analysis of 52 studies from three decades of research, Wildman et al. (2016) concluded that the association between parent-adolescent communication about sex and adolescent safe sex behaviour, including contraception and condom use, was positive and significant; however; this association was mediated by both adolescent and parental sex/gender, with a stronger association for adolescent females than for males and for mothers than for fathers. Wildman surmised that the association between parent-adolescent communication and adolescents' safe sex was positive across more than 50 studies, regardless of study design and communication topic (Wildman et al., 2016).

The availability of parental support is also a protective factor for adolescents' contraceptive use (Meekers et al., 2002; Wilson et al., 2011; Kinaro et al., 2015). For example, the results of a quantitative analysis of a mixed-method study in Kenya revealed that contraceptive use significantly increased from 6.2% among adolescents whose parents disapproved of contraception to 17.7% among their peers who had parental approval for contraception (Kinaro et al., 2015). This positive association between parental approval and adolescents' contraceptive use is supported by findings from the qualitative component of the same mixed-method study (Kinaro et al., 2015). Likewise, in-depth interviews with key informants highlight the lack of parental support as one of the barriers to adolescent mothers' post-partum contraceptive use

(Wilson et al., 2011). Studies also mention that parent-child connectedness and family intactness strongly influence adolescents' contraceptive use, including the consistency of such usage (Jaccard et al.,1996; Hogan et al., 1985). A more recent study conducted in Nicaragua found discussing contraception with family members or a health care provider to be positively associated with adolescents' contraceptive use (Parker et al., 2019).

Family members other than parents can play an influential role in adolescents' contraceptive use. Wood and Jewkes observed, for example, that in Limpopo, South Africa, family members, specifically grandmothers, encouraged female teenagers to have a baby (Wood & Jewkes., 2006). In a qualitative study in Rangpur district, Bangladesh, Shahabuddin et al. (2016) found that aside from husbands, mothers-in-law and sisters-in-law played an essential role in restricting married adolescent girls from using contraception for the sake of having a baby in the family, son in particular (Shahabuddin et al., 2016).

Providers' knowledge, attitudes, and practices

Providers' knowledge, attitudes, beliefs and practices strongly impact the utilisation, provision and quality of SRH services (Jonas et al., 2017). Within clinical practice, it has been argued that providers' attitudes, beliefs and practices related to contraception, including the safety thereof, are significant influences on access to contraception for adolescents (Morgan et al., 2019; Onukwugha et al., 2019). This may be particularly true for ALHIV, because providers may discriminate against them and equate contraceptive care-seeking with sexual promiscuity (Fair & Beck., 2018; Hagey et al., 2015). Recent Systemic reviews have extensively documented the attitudes and practices of healthcare providers in contraceptive service-provision for female adolescents, without disaggregating the data by HIV status (Chilinda et al., 2014; Onukwugha et al., 2019). However, only few studies documented providers' attitudes towards contraception for ALHIV patients (FHI 360., 2013; Wayenze et al., 2013; Hagey et al., 2015; McCarraher et al., 2018). Due to the dearth of literature on the subject, this section presents the literature on providers' attitudes towards contraceptive service-provision and care-seeking among female ALHIV and adults.

Contraceptive utilisation, including method choice, continuation and switching among female HIV-positive populations, may be strongly influenced by providers' attitudes, practices, knowledge and skills (Blanchard et al., 2014; Imbuiki et al., 2010). Research has shown varied results regarding provider attitudes and practices, including those of programme managers and policy-makers, towards contraception for WLHIV. Using nationally representative cross-sectional data from settings where HIV is endemic in South Africa and Zimbabwe, Blanchard et al. (2014) found that the majority of clinicians offered hormonal contraception; however, less than half considered hormonal contraception appropriate for WLHIV and most relied on condoms for contraceptive protection (Blanchard et al., 2014). In Argentina, Gogna et al. (2009) performed qualitative interviews of health professionals (including HIV service-providers and programme coordinators). They found that the majority recommended only condom use, while a few encouraged other contraceptive options (Gogna et al., 2009). However, an earlier qualitative study conducted in Cape Town, South Africa before the introduction of contraceptive service-provision guidelines for HIV-positive populations found that providers placed higher reliance on injectable contraceptives than other contraceptive methods for WLHIV (Harries et al., 2007). Additionally, the results suggested that the lack of specific guidelines and training around contraception for HIV-positive populations were determining factors (Harries et al., 2007). In addition to its lack of data specific to female ALHHIV, the findings from the South Africa study may not be generalisable to the present era of service-provision guidelines on contraception for HIV-positive populations.

Influenced by perceived safety concerns, such as the interaction between hormonal contraceptives and ART, and the increased risk of adverse effects with hormonal contraceptives or intrauterine devices, providers may have negative attitudes towards providing contraception other than condoms to WLHIV and ALHIV (Hagey et al., 2015; Imbuki et al., 2010; Gogna et al., 2009). Thus, they may offer limited contraceptive options to their HIV-positive patients (Laher et al., 2009; Gogna et al., 2009). As demonstrated by Hagey et al. (2015) in a qualitative study of contraceptive service barriers and facilitators in Kenya, providers’ concerns about the adverse

effects of hormonal contraceptives for female ALHIV influenced their provision of non-hormonal contraception methods, such as abstinence or condoms (Hagey et al., 2015). Moreover, providers resisted offering hormonal contraception methods to female ALHIV because they believed it would deter condom use (Hagey et al., 2015). This is consistent with the findings of another study from Argentina that explored clients' and providers' perspectives on reproductive health needs of PLHIV (Gogna et al., 2009). Furthermore, stigmatised attitudes around sexual promiscuity for ALHIV seeking contraception exist among providers (FHI., 360).

The few studies that reported providers' behaviours around contraceptive service-provision for ALHIV have not disaggregated their findings by ALHIV gender (FHI., 360; Wayenze et al., 2013., Parker et al., 2013), therefore, how providers perceive contraception service for female ALHIV is unclear. According to the gender-mixed studies of ALHIV, providers have less favourable attitudes towards ALHIV seeking contraceptive services, as indicated by mandated parental involvement/permission (i.e. providers expect that adolescents speak with their parents prior to seeking contraceptive services), the provision of incomplete information or non-provision of information about contraception, and feeling uncomfortable providing contraception to adolescents because they perceive them as children and too young to participate in sexual activity) (FHI 360., 2013; Wayenze et al., 2013., Parker et al., 2013).

In Zambia, a mixed-method study on HIV care and the SRH needs of ALHIV found that providers (e.g. doctors, nurses, adherence counsellors and pharmacy technologists) wanted to offer contraception for ALHIV and to be trained in how to do so (FHI., 360). A more recent Zambian mixed-method study mentioned above suggests that providers' poor foundational knowledge of counselling about non-condom methods of contraception for ALHIV influences providers' reliance on condoms for ALHIV contraception (McCarraher et al., 2018). Banda et al. (2004) also found that many service-providers in Zambia, despite the existence of clear policy guidelines favouring dual contraception for WLHIV, withheld information about dual contraception from WLHIV. Banda et al. (2004) also reported that, for WLHIV, providers' lack of technical knowledge or up-to-date information on appropriate contraceptive methods was a barrier to their access to

contraception (Banda et al., 2004); this was also true for providers in some other African countries and Argentina (Harries et al., 2007; Gogna et al., 2009; Adamchak et al., 2010). Finally, Orner et al. (2008) found that WLHIV described 'bad answers from clinic staff' as a barrier to accessing contraception (Orner et al., 2008).

Social norms and stigma

Social disapproval of contraceptive use also limits adolescent women's use of contraception. For instance, concern over being recognized in the family planning clinic by family members was illustrated as a common factor that deterred adolescents from using contraception (Ritcher & Mlambo, 2005). In Kenya, a recent multi-centre qualitative study of service providers highlighted female ALHIV fear of being seen in the contraceptive clinics by peers, parents and providers as a significant barrier to accessing contraceptive services (Hagey et al., 2015). Specifically, providers reported that female ALHIV were afraid of being viewed as sexually promiscuous by community members (peers, parents and providers) when seeking contraceptive services (Hagey et al., 2015). One qualitative study conducted among Swazi adolescents aged 16 -18 years revealed that cultural norms that reinforce the minority status of women, childbearing to deepen a relationship, and preference for boys to use contraceptives were strong influences that motivated adolescent women for not using contraception (Ziyane et al., 2006). One recent qualitative study of U.S Latino adolescents has documented cultural factors, including family dishonour and sexual taboo, as barriers to contraception access (Barral et al., 2020).

2.3.3 Structural-level factors

Structural factors include laws, policies and access considerations, including service quality, parental education, unemployment and economic factors such as access to grants, poverty and food security (Toska et al., 2017; Simon et al., 2015). A recent systematic review of the literature on the sexual risk behaviours of ALHIV and HIV-positive young adults in sub-Saharan Africa highlighted ART access/use, ART care type and group counselling/support group as HIV-specific

factors that influence SRH behaviours at the structural level (Toska et al., 2017). This thesis focuses on the following structural factors: service quality dimensions/youth friendliness of service, access site/youth-friendly services (YFS) model, socio-economic factors (including proxies such as parental education and household income) and HIV-specific factors.

Contraception service quality, friendliness and satisfaction

Quality of care or service is a concept that includes multiple dimensions (Donobedian., 1980; Bruce., 1990; Sofaer & Firminger., 2005; Becker et al., 2007, WHO., 2006 & 2009), and it provides the basis for defining adolescent-friendly sexual and reproductive health services (SRH) (WHO., 2006; WHO., 2009). Service quality has also been linked to contraception provision, utilisation and continuation (Ramarao et al., 2003; Do & Koenig 2007; Dehlendorf et al., 2016). Patient satisfaction, which is usually evaluated through a range of service quality dimensions, has also been linked to the uptake and continued utilisation of contraception services (Bruce., 1990; Williams et al., 2000). Additionally, service quality has consistently been found to impact patient satisfaction with contraception (Rosenberg et al., 1998; Agha et al., 2009; Hutchinson et al., 2011;).

Studies of contraception service quality have typically included the general populations of adolescent or adult women (without disaggregating data by HIV status), and very few have attempted to provide information on HIV-positive populations (FHI., 360; Wayenze et al., 2013). For this reason, this thesis reviews those studies that provided information on the quality of contraception service provided to adolescent women or HIV-positive female populations. The various dimensions of contraception service quality include accessibility, communication and information, provider-patient interactions, the efficiency and effective organisation of care, technical competence, structure and facilities, method choice and patient-centredness (Becker et al., 2007).

Method choice refers to whether patients are offered the full contraceptive method mix and can choose those that are most suitable (Bruce., 1990; Becker et al., 2007). Studies have suggested

that the contraceptive options commonly offered to WLHIV in South Africa and Argentina are injectable methods and condoms, respectively (Harries et al., 2007; Gogna et al., 2009). In Zambia, a recent mixed-method study found that the contraceptive options for ALHIV are limited to condoms (McCarraher et al., 2018). As previously discussed, providers generally advise WLHIV against hormonal contraception despite its safety (Imbuiki et al., 2010; Todd et al., 2011). Furthermore, a review of studies in low- and middle-income countries showed that contraceptive options for adolescents are limited to condoms due to provider misconceptions about methods other than condoms (Chandra-Mouli et al., 2014). Similarly, in a qualitative study of adolescent contraceptive use in South Africa, Wood and Jewkes (2006) found that provider refusal to allow adolescents to switch from injectable methods to another method, even when there are medical indications, is a common reason for discontinuation of contraception (Wood & Jewkes., 2006). One study using simulated patients specifically assessed contraceptive service quality from the perspective of youth and found that the choice of contraceptive methods had the highest service quality rating score among the dimensions of quality assessed. On the 'choice of contraceptive methods' index (ranging from 0 to 9), the average reported quality score being 5.3 (SD = 2.5). These results suggest a poor- to moderate-level of contraceptive service quality in this dimension (Nalwadda et al., 2011).

Provider–patient interactions refer to providers' verbal and nonverbal behaviours towards patients. This dimension of service quality reflects friendliness, empathy, courtesy and respect, including provider respect for patient privacy (Becker et al., 2007). Across studies, adolescents and young adults have consistently emphasised privacy, confidentiality and respectful treatment by providers as the most important aspects of SRH service quality (Senderowitz., 1999; Erulkar et al., 2005; Ambresin et al., 2013). Studies have found that provider unfriendliness, rudeness, judgement, discrimination and problems with confidentiality are significant barriers to access to contraception among adolescents (Donovan et al., 1997; Mmari & Magnani., 2003 Wood & Jewkes., 2006; Baxter et al., 2011; Chilinda et al., 2014). In one study that evaluated contraceptive service quality disparities by patient age, female adolescents reported a lower quality of provider-patient interactions compared to young adult women (Darney et al., 2016). In South

Africa, a mixed-method simulated patient study of 22-year-old male and female patients found friendly and respectful treatment by providers as the more positive experiences of service quality (Geary et al., 2015). On the other hand, the simulated patients identified provider disrespect for patient privacy and negative opinions on contraceptive-seeking as reasons for less positive contraceptive experiences (Geary et al., 2015).

The dimension of communication and information includes making available to patients sufficient and understandable information about the contraindications, advantages, side effects and effectiveness of different contraceptives, and how to use these method(s), during consultations for contraceptive services (Bruce et al., 1990; Becker et al., 2007). Little is known about the quality of contraceptive information given to adolescents and HIV-positive populations and its possible impact on contraceptive behaviours. In a qualitative study in Sri Lanka, adolescents felt that providers did not provide sufficient information on contraception (Agampodi et al., 2008). The South African simulated patient study described above revealed that youth reported receiving insufficient information as a less positive experience (Geary et al., 2015). Another South African study by Wood and Jewkes (2006) evaluated the perspectives of adolescent patients on contraceptive service quality as part of a broader qualitative exploration of barriers to adolescent contraceptive use and found that service-providers offered female adolescents low-quality care in the dimension of provider-patient interaction (Wood & Jewkes., 2006). A facet of the dimension of communication and information is consultation time, and insufficient consultation time was reported as a reason for adolescents being provided with inadequate contraceptive information (French., 2002). This is consistent with findings from in-depth interviews with a mixed-gender sample of ALHIV in Uganda (Wayenze et al., 2013). In countries without age restrictions on contraceptive service-provision, the refusal of healthcare providers to offer contraceptive information to unmarried adolescents has been noted as an obstacle to access to contraception (Magnani et al., 2001; Mmari & Magnani., 2003; Pulerwitz & Barker., 2004).

Accessibility, one of the central dimensions of adolescent-friendly sexual and reproductive health services (SRH), can be considered a multidimensional construct consisting of economic, administrative, cognitive, psychosocial, and geographic or physical access factors (Bertrand et al., 1995), and denotes the extent to which patients are able to obtain available health services (WHO., 2009). Marital status, parity and/or age have been reported as barriers to contraceptive utilisation among adolescents and youth in several studies (Speizer et al., 2000; Mmari & Magnani., 2003; Baxter et al., 2011; Chilinda et al., 2014; Sidze et al., 2014, Schwandt et al., 2017). Mmari and Magnani (2003) found that unnecessary medical procedures (in addition to age and marital status) deter adolescents from seeking SRH (including contraception) across non-YFS and YFS clinics in Zambia (Mmari & Magnani., 2003). Distance, inconvenient opening hours and delay in securing clinic appointments have also been reported as obstacles to contraceptive care-seeking among youth (Baxter et al., 2011; Donovan., 1997). As demonstrated in a quasi-experimental study of a YFS approach in London, extended clinic operating hours and 'no appointment required' enabled youth use of contraceptive services (Baraister et al., 2002).

The efficiency and effective organisation of care can include waiting time to be seen, follow-up, seeing the same provider at each consultation, and billing and referral (Becker et al., 2007). However, there is limited research on the impact of this dimension of service quality on youth contraceptive use. Providers of ALHIV care and treatment services in Zambia described long queues, understaffing and heavy workload as obstacles to high-quality SRH counselling with ALHIV (Hodgson et al., 2012). While waiting to be seen is one of the indicators of contraceptive service quality that adolescents in Central London considered to be important (Nwokolo et al., 2002), feeling dissatisfied with clinic waiting time during contraceptive clinic visit was frequently reported among female adolescents and adult women in the District of Columbia (Sonenstein et al., 1997). Short follow-up visits (i.e. less than one month from the initial appointment) have been found to increase contraceptive use among adolescents (Brindis et al., 1994).

Technical competence refers to a provider's competence and skills in providing safe and effective care and adhering to clinical guidelines or protocols (Bruce., 1990; Becker et al., 2007). An aspect

of this dimension, technical skills of provider, has been investigated in a few studies regarding adolescents: Burrack et al. (2000) and Geary et al. (2014) found that some providers lacked the skills to provide SRH services to adolescents. A mixed-method study in Zambia reported low technical competence of providers in modern contraceptive methods other than condom, and this probably explains ALHIV reliance on condoms (McCarraher et al., 2018). The limited evidence suggests that although clinical practice guidelines regarding contraception for HIV-positive populations are available, adherence to these guidelines are somewhat poor (Adamchalk et al., 2010; Banda et al., 2004). Providers' misconceptions about the safety of hormonal contraception in WLHIV also suggest poor technical competence (Laher et al., 2009; Gogna et al., 2009; Imbuki et al., 2010; Newmann et al., 2013; Hagey et al., 2015). Providers' lack of updated information about the interactions between hormonal contraceptives and ART has also been negatively associated with the provision of hormonal contraception to HIV-positive women (Banda et al., 2004; Harries et al., 2007; Gogna et al., 2009).

Youth-and adolescent-friendly service-provision models

As previously described, a wide range of individual, socio-cultural and structural barriers prevent youth from using SRH services (including contraception). YFS, also known as adolescent-friendly services, are generally considered important in addressing these barriers and are a strategy for increasing youth access to and uptake of SRH services (Simon et al., 2015; Zuurmond et al., 2012). YFS can be delivered through non-health settings (e.g. schools, prisons and workplaces); non-static health settings (including mobile clinics, satellite clinics and community-based outreach services); completely separate static settings; separate spaces co-located in facilities; and integrated/mainstreamed into existing health facilities, drug shops and pharmacies) (Simon et al., 2015; Zuurmond et al., 2012). In the context of YFS models, completely separate static settings for adolescents and youth have been categorised as youth centres, which are 'multipurpose centres that offer SRH services, educational, recreational and/or vocational activities' (Denno et al., 2015; Simon et al., 2015;) or standalone 'health centres/clinics dedicated to serving adolescents and youth with a range of clinical services, including SRH services' (Simon et al., 2015).

Many developing countries have emphasised youth centres as an important YFS model for promoting youth uptake of SRH services (Senderowitz., 1997; Denno et al., 2015); however, there has been limited comparative research examining the effectiveness of youth centres in increasing the uptake SRH services. The findings are mixed. The literature evaluating youth centres has exclusively focused on the general adolescent population, and data on more vulnerable adolescent subpopulations, including those living with HIV, are lacking. A Togolese longitudinal study evaluated the impact of a youth centre in Lome and demonstrated a significant increase in contraceptive uptake and use consistency among adolescents who visited the centre during the follow-up period (Speizer et al., 2004). In South Africa, Erulkar et al. (2001) evaluated public and private sector youth centres and found that condom use and dual protection were higher among female (but not male) adolescents and young adults who had visited youth centres, compared to their peers who had not visited (Erulkar et al., 2001). Additionally, some aspects of provider-patient interactions have been noted as problematic among patients attending South African youth centres. For example, about 14% of patients reported embarrassing treatment by providers; the proportion reporting judgemental treatment was particularly high at about one-third of patients (Erulkar et al., 2001). In addition to negative, judgemental or moralistic attitudes on the part of providers, inconvenient hours of operation and lack of contraceptives were also highlighted in an evaluation of youth centres in Kenya (Erulkar & Mensch., 1997).

Townsend et al. (1987) utilised a quasi-experimental design to evaluate the efficacy of two YFS strategies (Integrated Youth Centres and Community-Based Programmes) and found that, compared to youth residing in control communities, contraceptive uptake was higher for youth in Integrated Youth Centre communities (44% vs 2%). A striking percentage of 98% uptake was reported for Community-Based Programme communities (Townsend et al., 1987). In Rwanda, while youth centres significantly and positively impacted HIV test uptake, they had no positive effect on contraceptive use (Neukom & Ashford., 2003; Plautz & Meekers., 2003). A recent systematic review of peer-reviewed and grey literature on youth centres and the uptake of SRH services, including contraception, concluded that youth centres were not likely to be an effective

strategy for promoting the utilisation of SRH services (Zuurmond et al., 2012). Distance issues concerning cost of transport, privacy and confidentiality issues, attendance by youth for whom recreation was the key reason to use the centres, and gender issues, including predominantly male users, were identified in the systematic review as the obstacles to the utilisation of youth centres for SRH services (Zuurmond et al., 2012).

Other studies have also evaluated the mainstream YFS model (i.e. 'all (or most) health providers and support staff in the health facility offer high-quality services to youth as part of their routine service-delivery'), with mixed findings. In a study of the quality of sexual and reproductive health services for adolescents in the context of HIV care, Mathew and colleagues demonstrated that simulated adolescent patients seeking HIV testing services at public sector primary healthcare clinics across Cape Town, South Africa, experienced negative attitudes from healthcare providers in both youth-friendly and general clinics. Additionally, this study, which included a mixed-gender sample of HIV-infected and uninfected adolescents (no information on perception of service quality by HIV status) showed that confidentiality breaches were prevalent in both clinics (Mathews et al., 2009). Compared to health facilities not providing YFS, Geary et al. (2015) found that non-standalone health facilities offering YFS did not deliver higher-quality contraceptive services (Geary et al., 2015).

Research with adolescents has suggested that they prefer dedicated youth clinics and standalone clinics (Smith., 2001; Baraister et al., 2002; Agampodi et al., 2008). Although the effectiveness of standalone youth clinics is yet to be rigorously evaluated, the clinics are considered an effective strategy to increase youth access to SRH services (Baraister et al., 2002). Using data from a nationally representative survey of school-linked health centres (SLHC), defined as 'adolescent health care facilities located beyond school property but with formal or informal relationships to one or more schools in the community', in the United States, Fothergill and Ballard (1998) argued that the SLHC are a promising model with great potential for promoting adolescent access to quality medical care, including SRH services. (Fothergill & Ballard., 1998).

Other structural-level factors

As noted above, HIV-related structural factors include ART treatment/access, ART care type (e.g. hospitals vs clinics) and support group (Toska et al., 2017). The literature on the influence of HIV-related structural factors on the contraceptive behaviour of HIV-positive adolescents/youth is sparse and has focused on condom use/unprotected sex (Toska et al., 2015; Kaggwa & Hindin., 2013; Mhalu et al., 2013). A cross-sectional study of HIV-positive adolescents and young adults in Tanzania found that ART treatment was not associated with condom use (Toska et al., 2015). A similar result was found in a case study in Uganda (Mhalu et al., 2013). Likewise, ART access site (receiving care at hospitals vs primary clinics) was not associated with unprotected sex (Kaggwa & Hindin., 2012). Only one study aimed to evaluate the impact of access to a support group on the safe sex behaviour of HIV-positive adolescents and youth (Snyder et al., 2014). This study, which is a longitudinal one and involves a mixed-gender sample (95% females), found that support group sessions increased condom use significantly by 12% (Snyder et al., 2014).

Socio-economic status (SES) can also influence adolescents' access to and use of contraception. In Hogan et al.'s study in Chicago, the US, higher levels of social class, defined as living in neighbourhoods with a high SES, were associated with significantly greater use of contraception among unmarried Black adolescents, as opposed to lower levels of social class, defined as residing in ghetto neighbourhoods (Hogan et al., 1985). When parental education and income are applied as a proxy for SES, Miller et al. (2001) found that adolescents' contraceptive use increased with parental education attainment and income (Miller et al., 2001). Parental education alone was also positively associated with adolescents' contraceptive use (Feleke et al., 2013). The greater tendency of individuals from a higher SES to overcome economic and geographic/physical access barriers to contraception is a possible explanation for the positive association between SES and contraceptive use (Prince & Hawkins., 2007). By contrast, a Finnish study of 16-year-old females found that oral contraceptive use was greater among adolescent females from less-affluent backgrounds than among those from more affluent backgrounds (Kosunen et al., 1995). Gebreselassie et al. (2013) analysed multiple DHS data collected in Ethiopia during 2000-2011 and found

wealth status was not a significant predictor of contraceptive use among adolescents and young women.

Policies and regulations can dissuade ALHIV from using contraceptives. For example, in a recent Zambian multi-site study conducted in clinics providing HIV treatment and care to ALHIV, service providers emphasized that they would require authorization to provide contraception to ALHIV (FHI., 360). One qualitative study among providers highlighted that parental consent (for adolescents) for receiving contraceptive services was a barrier to contraceptive access for female ALHIV (Hagey et al., 2015).

In summary, there remained limited data on the determinants of contraceptive behaviours among ALHIV. Future research on determinants of access to and use of contraception among ALHIV is crucial and should include a multilevel analysis.

2.4 Summary of findings and knowledge gaps

The literature indicates substantial gaps in contraception research around ALHIV. The findings suggest a need to understand the distinctive needs of female ALHIV regarding contraception at multiple levels to promote female ALHIV optimal access to and utilisation of contraception, impacting their well-being. Most studies of issues regarding contraception in ALHIV focused on pALHIV or general female ALHIV populations, with little or no specific information on hALHIV who may have contraceptive needs different from those of their pALHIV peers. The majority of these studies involved mixed genders, with little details on gender-specific profiles related to contraceptive behaviours. Also, the existing literature is biased towards North America and East Africa. Information is lacking on other aspects of contraceptive needs among ALHIV in general, including consistency of use of contraceptives other than condoms.

Given the inadequate exploration of ALHIV contraceptive service preferences, particularly method choice, access site, provider profiles and clinician continuity, the types of services that

work best for this group remain unknown. The few studies that have attempted to explore contraceptive service preferences among female ALHIV have been limited to the sources of contraceptive information or method choice. Establishing the impact of the route of HIV acquisition on female ALHIV's contraceptive behaviours and needs has also proved challenging because of the lack of data for comparability in existing studies. The fact that pALHIV and hALHIV vary in terms of sexual activity (Carter et al., 2013) suggests that further research is needed to isolate the contraceptive behaviours and needs of both groups. Knowing the similarities and differences in the ALHIV's contraceptive behaviours and needs by HIV-mode of acquisition girls would help further identify the peculiar contraceptive needs of each sub-group of ALHIV.

A socio-ecological intervention approach rather than an individual-level one has been proposed as a useful strategy to increase the accessibility to and acceptability of sexual and reproductive health services for adolescents (Diclemente et al., 2005). Adolescents make behavioural decisions, including contraceptive-related behaviours, within a broad social context. No studies on the application of a socio-ecological model to evaluate the enabling or constraining factors for contraceptive use from female ALHIV perspectives have been identified in the literature. Only one published used a socio-ecological model to explore provider perspectives on the determinants of contraceptive use among female ALHIV. The design of the study, a structured qualitative interview of service-delivery providers, may have limited the diversity of its findings. Given that studies demonstrate that contraceptive use among WLHIV aged 18 years and above is influenced by HIV-specific factors, generalising or transfering findings from studies of adolescents with unknown HIV status is challenging.

Research has begun to show the role of hormonal contraceptive-related safety considerations among WLHIV; such concerns include the risk of HIV disease progression and reduction in the efficacy of either ART or hormonal contraceptives. Inconsistencies in the existing literature may exacerbate these concerns. Indeed, no studies have explicitly evaluated the perspectives of clients and providers on the HIV-specific safety issues regarding hormonal contraception. With the potential for misinterpretation and concerns over the effect of hormonal contraception on

HIV disease and ART efficacy, more research is needed. In particular, exploring both how providers interpret such guidelines for female ALHIV and how female ALHIV themselves perceive hormonal contraceptive-related safety issues, may provide further insight into the constraints on contraceptive service provision and utilisation.

South Africa's National Contraception Policy and Service Delivery Guidelines also recognise the importance of quality in contraceptive care services. As noted in the literature, only one study explored young people's experiences in the quality of contraceptive services in youth-friendly clinics compared with clinics that did not provide youth-friendly services in the context of South Africa (Mathews et al., 2009). However, this study included only HIV-negative participants (males and females) aged 22 years to evaluate clinic services. Adolescents living with HIV were not a part of the evaluation process, so the findings from the study may not be generalisable to ALHIV. Furthermore, the study assessed only one dimension of contraceptive service quality, which was the method chosen, and a conceptual framework did not guide the research. Moreover, the design of the study – simulated client approach- might have limited the opportunity to capture more abundant data. Given the current interest of the Western Cape Provincial Department of Health/City Directorate of Health in improving young persons' access to integrated contraceptive and HIV care services, evidence is urgently needed on the impact of the standalone youth clinic on a breadth of contraception related outcomes, including current use and service quality.

3. Methodology

Introduction

This chapter outlines the research design and methodology used to address the hypotheses and research questions of this dissertation. Firstly, the study setting and population are described, followed by the justification for the mixed-method study design. The next section describes exploratory meetings with stakeholders, data collection and analytic procedures for both the qualitative and quantitative data, as well as data triangulation. The final section addresses the ethical considerations.

3.1 Research Design

3.1.1 Study setting and population

Western Cape, one of nine South African provinces, is located in the southwestern part of the country and the southernmost part of the African continent. It is the fourth-largest province in South Africa in terms of population and land area, as well as in population density (Statistics South Africa, 2012). The province has six districts: one metropolitan district (city of Cape Town/Cape Metro) and five rural districts. In 2011, Western Cape had an estimated population of 5.8 million (Statistics South Africa, 2012). Western Cape was selected for this case study because it was the only province in South Africa to have integrated family planning services into all public-sector HIV care clinics. Moreover, three of South Africa's largest townships in Western Cape, Khayelitsha, Gugulethu and Mitchell's Plain, have HIV prevalence rates above both the overall provincial and national rates.

The city of Cape Town, which contains the setting for the study, is the capital of Western Cape Province and the largest city in the province. Within Cape Town, three sub-districts were

purposively selected – 1) Khayelitsha and Eastern; 2) Mitchells Plain and Southern; and 3) Klipfontein and Tygerberg – as three of South Africa's largest townships (Khayelitsha, Gugulethu and Mitchells Plain) are located in these sub-districts (Statistics South Africa, 2011). As noted above, the HIV prevalence rate in each of these three sub-districts (ranging from 18.4 to 34.3%) is estimated to be higher than the overall provincial rate (17.8%) (Shisana et al., 2005; Shisana et al., 2014).

Data from South Africa's most recent national HIV seroprevalence survey suggested that HIV prevalence was highest in the townships (Shisana et al., 2014), indicating that this context would offer the best option in terms of the recruitment of a sufficiently diverse sample of study participants, including healthcare providers and the hard-to-reach population of ALHIV. Fifteen high-volume general PHC clinics providing HIV services (ranked by the number of HIV-positive clients) were selected for this research because it was not feasible to recruit participants from all 28 facilities. These health facilities were selected from the three aforementioned townships to maximise participant recruitment and diversity in terms of geographic location. Also, two stand-alone youth clinics providing HIV services were also purposively chosen for comparison with the general PHC clinics providing HIV services to answer the fourth research question (see chapter one subsection 1.3.1). These stand-alone youth clinics, located in Khayelitsha, were the only stand-alone youth clinics providing HIV services in Western Cape at the time of the study. All 17 study clinics are in townships within these three sub-districts, and these clinics serve over 90% of PLHIV in these sub-districts. The townships included in the study are Khayelitsha, Mitchells Plain, Gugulethu, Nyanga, Phillipi, Crossroads and Heldeveld. These are black townships, except for Mitchells Plain and Heldeveld, which are coloured townships.

3.1.2 Mixed methods study design

A concurrent mixed methods design (i.e., simultaneous implementation of quantitative and qualitative methods during a single data collection phase, with one method serving as a primary method guiding the study and the other playing a supporting role was utilised. The study design

is preferred when one needs to use different modes (qualitative and quantitative) of inquiry, with unequal weighting/priority, to gain perspectives from two different groups/levels. In this study, predominantly quantitative data were obtained from the survey of female ALHIV, and an additional qualitative component was also obtained from interviews with health care providers.

In-depth interviewing of adolescents by the candidate, who is of different gender, native language and cultural background and considerably older than the research adolescent participants, could pose a threat to the reliability, validity and analysis of the data on sensitive phenomena under evaluation in this research. Against this potential effect of an interviewer's social position (i.e., aforementioned characteristics) and the necessity for the candidate to play a substantial role in the qualitative data collection and analysis, interviews with a broad range of health care providers were considered as the most appropriate data source for the qualitative research methodology. Furthermore, integrating findings from two different data collection approaches for different population groups – female ALHIV and health care providers- would likely provide more insight from different levels, and consequently yields a better understanding of the research phenomena than either population group alone.

The main components of this study are as follows:

1. Exit interviews with female ALHIV in HIV care and treatment (quantitative method)
2. In-depth interviews (IDIs) with key informants – system- and service-levels health care providers (qualitative method)

3.1.3 Exploratory meetings with stakeholders

During the development phase of the research proposal, the candidate communicated with various key stakeholders in both local and provincial department of health in Western Cape, including health facility managers, HIV operational managers, health care providers, and relevant system-level managers and directors involved in HIV and SRH services. The staff of non-governmental organisations involved in HIV/SRH services in Western Cape was also engaged. The

stakeholder engagement process provided the primary researcher with the opportunity to gain broader access to HIV/AIDS burden estimates in both the study settings and clinics as well as obtain contextual information about contraception issues among ALHIV and ultimately improved the research approach. Meetings were also held with the Community Advisory Boards or health committees in the three study sub-districts to obtain an endorsement for the conduct of research with minors.

3.2 Quantitative cross-sectional survey

The quantitative research objectives and their respective dependent/outcome variables are displayed in Table 3.1. This section provides an overview of the quantitative methodology component of the research and outlines the rationale for the application of the procedures/techniques used. First, sample size determination and sampling technique are described. Next, the section details the survey tool, data collection planning, fieldwork procedures and data collection. Last, the section concludes with a description of the data management and statistical analysis methods employed.

Table 3.1: Quantitative research objectives and outcome variables

Research objectives	Dependent/outcome variables
1. To describe the demographic, psychosocial, inter-personal, socio-cultural, and socio-economic factors that influence modern contraceptive uptake and unmet needs for contraception among female ALHIV.	1.1 Current contraceptive use 1.2 Consistent contraceptive use 1.3 Unmet needs for contraception 1.4 Unintended pregnancy
2. To investigate whether hormonal contraceptive-related safety considerations specific to HIV-positive	2.1 Contraceptive method use

populations impact female ALHIV contraceptive use behaviours.	
3. To investigate how the contraceptive practices, preferences, and needs of female pALHIV compare and contrast with female hALHIV.	3.1 Receipt of contraceptive services 3.2 Current contraceptive use 3.3 Service delivery preferences
4. To investigate whether models (access sites) of HIV-related services that serve only youth lead to greater contraceptive service uptake and provision, perceptions of higher quality and greater satisfaction, and lower rates of unmet needs for contraception and unintended pregnancy among female ALHIV	4.1 Receipt of contraceptive services 4.2 Current contraceptive use 4.3 Client satisfaction with services 4.4 Service quality perceptions

Respondents who reported the current use of one modern method of contraception were classified as current contraceptive users, and those who reported using condoms and another modern contraception method were categorised as dual-method users. Consistent users are defined as respondents who reported that they had used condoms or any other modern method of contraception every time they had intercourse during the past three months before participation in the survey. Respondents were categorised as consistent dual-method users if they reported use of both a condom and any other modern contraceptive method every time they had sex during the aforementioned three-month time interval.

3.2.1 Sample size

The sampling frame for the quantitative research component was drawn up to allow for a representative sample and generalizable results. In this study, several outcome variables were evaluated, and there was no overriding primary outcome. Sample size computations were based on the CPR. Data on CPR are unavailable for female ALHIV in South Africa. Though two studies in Kenya and Uganda have documented the CPRs among female ALHIV (Obare et al., 2010a; Oliveras & Makumbi., 2013), the rate from either of these two studies was not used to estimate the study's sample size because the levels of contraceptive uptake in these East African countries contrasted with that of South Africa (Department of Health., 2007; Kenya., 2014; Uganda., 2016). Thus, the required sample size was based on the South Africa DHS (SADHS) data on the CPR (69%) among sexually active adolescent girls between 15 – 19 years of age (with unknown HIV status) (Department of Health, 2007), and assuming a similar level in sexually active female ALHIV in South Africa, the estimated sample size for this survey was 329. The sample size was based on 2003 SADHS published in 2007 and drawn before the 2017 SADHS results came out. The assumption of similarity in the CPRs between female ALHIV and their counterparts not living with HIV was based on the existing literature which suggests that WLHIV and female ALHIV in urban townships in Cape Town area have same levels of current contraceptive uptake as their HIV-negative counterparts (Crede et al., 2012; Sadeghi et al., 2015). Assuming a 95% confidence level, the formula $n=1.96^2$ x [p $(1–p)/d^2$] was used to estimate the sample size (Pourhoseinqholi et al., 2013), where n is the required sample size, p is the assumed prevalence (0.69), and d is the level of precision (0.05)].

The sample size required to compare contraceptive related outcomes (e.g., current use, service quality perception measures) by mode of service delivery (stand-alone youth vs general PHC clinics providing HIV services was also based on CPR. The estimated minimum sample size needed to demonstrate a CPR difference of 10% between access sites that serve only youth and those that serve all ages, with 80% power, a 95% confidence interval and a 5% significance level, is 301 individuals per group (i.e., a total sample of 602 subjects for both stand-alone youth and general PHC clinics. As the ALHIV client loads are generally low across health facilities, approximately 500

female ALHIV were retained in care in the selected study centres (unpublished data from the Centre for Infectious Disease Epidemiology and Research), a finite population correction (fpc) factor was applied to the initial required sample size (n_r=602) so that a difference of 10% contraceptive uptake between the two groups can be reliably detected with a realistic sample size at 80% power with 95% confidence (National Academies of Sciences, Engineering, and Medicine., 2018). Since n_r=602 is >5% of the population size (i.e., ALHIV retained in HIV care at the study sites) and sampling is without replacement, the assumptions of the finite population factor are met (Susan et al., 2015). The fpc factor reduces the sample size to achieve an appropriate size for a survey and corrects for standard error. The equation employed to calculate the adjusted sample size was (Susan et al., 2015): $n_a = n_r /(1 + (n_r - 1)/N)$, where n_a= the adjusted sample size, n_r = the initial required sample size and N = population size. Using the fpc factor with n_r = 602 and N=800 (i.e., estimated population of female ALHIV in HIV care in Western Cape PHC clinics based on unpublished data from the Centre for Infectious Disease Epidemiology and Research) in the equation above, the estimated total adjusted minimum sample size required to contraceptive related outcomes by clinic group would be 273 – indicating a minimum sample size of 137 individuals per group.

3.2.2 Sampling strategy

Purposive sampling of sub-districts and facilities was carried out instead of multistage sampling because ALHIV can be hard to reach in healthcare facilities. As an initial step in the research process, after gaining approval from local and provincial authorities to access the selected facilities, the PhD candidate visited all the selected PHC facilities to ascertain the adolescent client load in the HIV care and treatment clinics and their respective peer/youth support groups. These visits revealed that the client load was below the estimated sample size for each clinic due to loss during follow-up in a sizeable proportion of this young sub-population of PLWH.

To achieve representativeness for female ALHIV in the study setting, a consecutive case selection technique was utilised so that all female ALHIV retained in care at the selected clinics had an

equal chance of being selected. Poudel et al. (2016), based on an in-depth analysis of the challenges of conducting research among PLHIV, along with possible solutions, identify sampling and recruitment of participants as a significant issue in HIV/AIDS research. For such research, the authors recommend employing a non-probability sampling technique instead of probability sampling techniques due to the difficulty of obtaining a realistic sampling frame (Poudel et al., 2016).

To be eligible for questionnaire administration or an interview, participants had to be a female ALHIV between 14-19 years of age, be enrolled in HIV care and treatment services at the respective study clinics where interviews were conducted, had to have had sex, be willing to participate in the research, feel comfortable with questions on sexual and reproductive behaviours, currently living in Khayelitsha, Klipfontein or Mitchell's Plain sub-district, and be able to speak English, Afrikaans, or Xhosa. Potential participants between 14-17 years who met these criteria were given a parental/guardian permission form (see Appendixes 2 & 3), and participation in the study required parental/guardian consent. Potential participants who self-reported they had never had sex, who were too ill to be willing or feasible for interviews, and who were receiving treatment for cognitive impairment were excluded from the study. The age group of 14 to 19 years was chosen because it was thought that these individuals' experiences with contraceptive issues would contribute significantly to this research. A reason for choosing 14 years as the age threshold for inclusion in the study is that adults and minors aged 14 years and above (i.e., mature minors) are similar concerning their cognitive capacity for making informed decisions (Weithom & Campbell, 1982).

3.2.3 Data collection

A structured paper-based questionnaire (see Appendixes 4 & 5) was used to gather research data**.** The questionnaire design was guided by the research objectives and conceptual framework, and the wording was chosen to be age-appropriate for the sample population. To enhance the quality, and particularly reliability and content, criterion and construct validity, of the study's

questionnaire, existing survey instruments previously used in populations that included adolescents were utilised. The items on the questionnaire were either taken verbatim or adapted from the following national/international survey tools:

1. WHO Global School-based Student Health Survey 2013;
2. UNDP/UNFPA/WHO/World Bank Special Programme of Research, Development and Research Training in Human Reproduction's Illustrative Core Instruments 2001;
3. South African National Health and Nutritional Examination Survey 2011/2012;
4. U.S National Health and Nutrition Examination Survey 2013-2014;
5. South African Demographic and Health Surveys Questionnaire 2003;
6. South African National HIV Prevalence, HIV incidence, Behaviour and Communication Survey 2008; and
7. Family Health International (FHI) Behavioural Surveillance Survey 2000 (Behavioural Surveillance Surveys, 2000).

Furthermore, the following existing validated scales were also utilised in the design of the questionnaire:

8. Contraceptive self-efficacy for teenagers;
9. Antiretroviral medication adherence;
10. Service satisfaction;
11. Stigma; and
12. Quality of family planning services.

A review of the literature also led to the inclusion of other measures in the questionnaire. For example, items on partnership factors, parent-adolescent communication, cultural norms, and HIV-specific factors. In addition, the relevant literature on the evaluation of sexual health and reproductive health services was evaluated extensively. To further the content validity of the questionnaire and ensure its wording was appropriate for the study population, the questionnaire was reviewed by the research supervisors and committee, with additional oversight by the institutional review board (IRB). The questionnaire was available in English,

Xhosa and Afrikaans (see Appendixes 4 & 5). It was translated and back-translated by professional translators, with emphasis on conceptual and cultural equivalence.

The items (questions) on the questionnaire progress from not sensitive to more sensitive and particular attention was paid to the questionnaire wording to ensure that the questions were understandable and devoid of misinterpretation. Single item or multiple item Likert-type questions, with five response options (mostly from strongly agree to strongly disagree), were used to measure participants' opinions or attitudes towards safety concerns, self-efficacy, dyadic perceptions, service quality and satisfaction, and clinic stigma related to contraception. Carifio and Perla (2007; 2008) argue that a multi-item measuring scale (also known as Likert scale) yields a unified result or summative assessment and allow maximization of internal consistency-reliability and improved reflection of the underlying latent construct of interest. Vickers (1999) demonstrated the same trend with a single-item measure in the Likert scale format and concluded that the single-item Likert-type response provided an excellent, responsive measure. The PhD candidate also used equivalent smiley faces alongside text response Likert-options as visual primes to help participants process their answers to the questions. One recent study shows that survey response options containing text labels with smiley faces result in less fixation times on question stems (Stange et al., 2016).

The questionnaire was divided into sub-sections that covered the following: demographic profile; HIV service use; pregnancy experiences; contraceptive behaviours; safety concerns around hormonal contraception in PLHIV; dyadic perceptions; sexual behaviour; receipt of contraception services; and contraceptive preferences, service quality and satisfaction. Dependent and independent variables included in the data analysis are displayed in Table 3.2.

Table 3.2: Summary of measures in quantitative data

Variable	Question/item construction	Derivation	Response classification
Dependent variables/outcomes of interest			
Current contraceptive use	Appendix 2: item 403	Adapted from the 2003 South Africa DHS questionnaire	No-current contraceptive use; Current contraceptive use; Current dual method use
Consistent contraceptive use	Appendix 2: items 604 – 607	Behavioural Surveillance Surveys, 2000	Consistent condom use; Inconsistent condom use; Consistent dual-method use; Inconsistent dual-method use
Contraceptive method use	Appendix 2: item 404	Adapted from the 2003 South Africa DHS questionnaire	Non-use of contraception; Current use of any contraceptive method; Current dual-method use[¥]
Unmet need for contraception	Appendix 2: items 303 – 304	Based on (1) the standard DHS definition; and (2) the definition adapted	Unmet need; No unmet need.

		from the standard DHS definition (Westoff., 2006; Adamchak et al., 2010; Bradley et al. 2012)[ł].	
Unintended pregnancy	Appendix 2: items 302	Adapted from Santelli et al., 2003	Unintended pregnancy (either mistimed, unwanted, or unplanned); No unplanned pregnancy
Receipt of contraceptive services (counselling, condoms, contraceptives other than condoms and dual-method contraception)	Appendix 2: items 801 – 804	Adapted from Church et al., 2011	Received counselling/did not receive counselling; Received condoms/did not received condoms; Received contraceptives other than condoms/did not receive contraceptives other than

			condoms; Received dual-method contraception/did not receive dual-method contraception
Service delivery preferences (provider age, gender, continuity, and access site)	Appendix 2: items 904 – 907	Adapted from Becker et al., 2007	Older provider/young provider; Male provider/female provider; Continuity of care with a particular provider/No continuity of care with a particular provider; General PHC clinics/stand-alone youth clinics
Client satisfaction	Appendix 2: items 805 - 806, 808, 810 - 813	Adapted from Integra study (Church et al., 2011)	Scales dichotomised at the mean score of 4.0 High (mean score >=4.0; Low satisfaction group

	Seven-item Likert-type questions 5 point Likert scale with a range of answer options from 1 (strongly disagree) to 5 (strongly		(those with lower scores
Service quality perceptions			
Client-staff interaction	Appendix 2: items 805 – 807 Three-item Likert-type questions 5 point Likert scale with a range of answer options from 1 (strongly	Adapted from Becker et al., 2007	Scales dichotomised at the mean score of 5 Optimal rating (mean scores of 5); Below optimal rating (lower scores)

	disagree) to 5 (strongly		
Information and communication	Appendix 2: item 808 Single-item Likert-type question 5 point Likert item with a range of answer options from 1 (strongly disagree) to 5 (strongly	Adapted from Becker et al., 2007	Scores dichotomised at the mean score of 5 Optimal rating (scores of 5); Below optimal rating (lower scores)
Counselling on method variety)	Appendix 2: item 818	Adapted from Becker et al., 2007	Yes/No
Provider continuity	Appendix 2: item 902	Adapted from Becker et al., 2007	Yes/No
Independent variables			
Individual Characteristics			
Age cohort	Appendix 2: items 101 – 102		14 – 17 year olds; 18 – 19 year olds

Education status	Appendix 2: item 103		None/primary; Secondary/Tertiary
Alcohol consumption	Appendix 2: item 110		Yes/No
Cigarette smoking	Appendix 2: item 111		Yes/No
Time enrolled at the clinic	Appendix 2: item 201		<1 years; 1-2 years; >2 years
Mode of HIV infection	Appendix 2: items 203 – 204		pALHIV; hALHIV
ART adherence	Appendix 2: item 206	Adapted from the AIDS Clinical Trial Group's (ACTG) four-day recall instrument (Chesney et al., 2000.	Not on ART; Non-adherence; Adherence
Age at sexual debut	Appendix 2: item 602		Less than 15 years; 15 years and above
Living children	Appendix 2: item 301		No children; One child or more
Self-efficacy to use contraception	Appendix 2: item 701 Four-item Likert type questions	Adapted from Contraceptive Self-efficacy Scale (Levinson, 1986)	Scales dichotomised at the median score of 16

	5 point Likert scale with a range of answer options from 1 (strongly disagree) to 5 (strongly		High (Scale median >=16); Low (lower scores)
Perceived hormonal contraceptive risks specific to HIV-positive populations¥	Appendix 2: items 501a – d Four-item Likert-type questions 5 point Likert scale with a range of answer options from 1 (strongly disagree) to 5 (strongly agree)	Adapted from "the assessment HIV/AIDS risk behaviour" (Catania et al., 1988).	Scales dichotomised at the median score of 2.5 High (Scale median >=2.5) ; Low (lower scores)
Relational characteristics			
Partner age-gap	Appendix 2: items 101 & 612		5 years and above; Below 5

			year; No current main partner'
No. sex partners in the past 12 months	Appendix 2: item 610		None/1 sex partner; >1 sex partners
Disclosure of HIV-status to partner	Appendix 2: item 614		Disclosed status; Status not disclosed
HIV concordance	Appendix 2: item 616		Sero-discordant; Sero-concordant; Partner HIV-status unknown
Perceived peer influence on contraceptive use	Appendix 2: item 503 Single-item Likert-type question 5 point Likert item with a range of answer options from 1 (strongly disagree) to 5		Scores dichotomised at the median score of 5 High (median score of 5); Low (lower scores)

	(strongly agree)		
Parent-adolescent communication	Appendix 2: item 502 Single-item Likert type question 5 point Likert item with a range of answer options from 1 (strongly disagree) to 5 (strongly agree).		Scores dichotomised at the median score of 4 High (median score >=4) ; Low (lower scores)
Perceived partner influence on contraceptive use	Appendix 2: item 613 Single-item Likert type question 5 point Likert item with a range of answer		Scores dichotomised at the median score of 5 High (median score of 5); Low (lower scores)

	options from 1 (strongly disagree) to 5 (strongly agree).		
Living arrangement	Appendix 2: item 107		Male partner/alone; Other relatives; Parents
Community characteristics			
Distance from clinic	Appendix 2: item 109		0-30 mins; >30 mins
Perceptions of community acceptance of contraceptive use	Appendix 2: item 505 Single-item Likert type question 5 point Likert item with a range of answer options from 1 (completely unacceptable) to 5		Scores dichotomised at the median score of 4 High (median score >=4) ; Low (lower scores)

	(completely acceptable).		
HIV-felt stigma	Appendix 2: item 613 Single-item Likert type question 5 point Likert item with a range of answer options from 1 (strongly disagree) to 5 (strongly agree).	Adapted from Church et al., 2013	Scores dichotomised at the median score of 2 High (median score >=2) ; Low (lower scores)
Structural characteristics			
Household Socio-economic status (SES)	Appendix 2: item 105		Principal component analysis (PCA)-based wealth indexing was used to classify respondents into economic tertiles

			(low, medium, or high)
Parental education	Appendix 2: item 108		None/primary; Secondary above; unknown
Current membership of HIV support group	Appendix 2: item 208		Yes/No
Employment status	Appendix 2: item 104		Unemployed; Employed
Type of clinic attended	Appendix 2: study clinic's code (see page 1)		Stand-alone youth clinic; General primary healthcare clinic
Current ART use	Appendix 2: item 205		Yes/No
Ever received contraception counselling at any public clinic since testing positive for HIV	Appendix 2: item 801a		Yes/No

Note: Highly skewed scales were dichotomised at the median.

[¥]Dual-method use refers to the simultaneous use of condoms and another modern method of contraception.

[ŧ]Based on the adapted DHS definition, female ALHIV with unmet need for contraception included sexually experienced female ALHIV (i.e have had sexual vaginal intercourse) who either not currently using any modern contraceptive method or inconsistently used condoms as a primary contraceptive method and did not want any more children or intend to become pregnant in the next two years, or included currently pregnant women for whom the index pregnancy was mistimed or unintended.

Pilot testing questionnaire

A pilot test of the questionnaire was undertaken in one clinic with a high volume of HIV-positive youth to check comprehensibility, sensitivity, response burden/problems, skip pattern compliance and coding errors with a sample of three female ALHIV. The questionnaire was pilot tested in its English-, Xhosa- and Afrikaans- version. The pilot testing techniques included conventional pretesting method (interviews conducted by trained bilingual fieldworkers on real respondents using the questionnaire), as well as cognitive interviewing (see Appendix 6 for cognitive interviews' excerpts) to check the acceptability and comprehensibility of survey questions, and to assess the feasibility of the survey questions and the question-answer process (Aicken et al., 2013).

3.2.4 Recruitment, selection, and training of fieldworkers

Before the administration of the questionnaire, a team of fieldworkers comprising seven female data collectors (between 20 and 25 years of age) was trained to attain proficiency in the relevant research techniques. Individuals with a minimum of matriculation certificate working towards a bachelor's degree or who have had a bachelor degree had experience as field interviewers with adolescents, and worked in youth/adolescent HIV prevention programs were recruited as field workers. Other requirements such as bilingualism, with fluency in English and Xhosa or Afrikaans, and being of a similar racial or cultural background as interviewees were considered in the

recruitment process. The training of the survey fieldworkers was conducted by an adolescent psychologist, an individual with experience interviewing in both Xhosa and Afrikaans, and the candidate with oversight from the primary PhD research supervisor.

3.2.5 Participant recruitment and fieldwork procedures

As described in section 3.2.2, a census of the study target population was undertaken across all the study clinics. A daily clinic attendance register was used to identify potential participants for study eligibility and enrolment. Fieldworker-administered explanations and information sheets as well as comprehension sheets (see Appendixes 7 - 9) were utilized to help potential participants to give informed consent (see Appendixes 10 & 11). To ensure the privacy of potential participants and avoid social desirability bias, fieldworkers were assigned to study clinics outside their neighbourhood.

Interviews were held after the day's consultations and activities at the clinics and support groups. Only potential participants who demonstrated an understanding of the information about the study and consent to participate were interviewed. To ensure that a participant was not enrolled twice into the study, participants were asked to respond to a filter phrase (see Appendix 9: item 13). Interviews were conducted in the respondents' language of choice (English, Xhosa or Afrikaans) in private and convenient spaces within the clinics, and each interview lasted between 30 and 45 minutes. Participant recruitment and interviewing were conducted every day of the week during clinic operational hours (8 am to 4 pm), except during one afternoon per week for quality assurance meeting with the candidate.

In two instances, participants self-reported child neglect or a traumatic event following a sexual assault that occurred three years ago (and had been investigated by the police). For these cases, the interviewers completed a child abuse report (see Appendixes 12 & 13) and/or provided psychosocial support (see Appendix 14). Copies of the report of child neglect or traumatic event were immediately transmitted by the lead researcher to clinical social workers for support

services to be provided to the victims and for mandatory reporting (to the relevant agency), as set out in the Child Services Act.

3.2.6 Data management and analysis

Statistical analyses were conducted using STATA version 15.1.

Missing data

Descriptive analysis was used to determine the frequency of missing data. Based on the scientific knowledge of the variables with missing values and the statistical analysis (for example, chi-square-based tests) for missing data mechanisms and patterns, values for each of the variables with missing data were assumed to be missing completely at random (MCAR) (Heitjan, 1997; Patrician, 2002). Thus, single imputation methods, such as mean (median) substitution and hot-deck imputation method(s) were used to handle missing data. Although multiple imputation is the gold standard for handling missing data, the hot-deck and mean substitution methods were employed for several reasons. Single imputation methods are unbiased if data is MCAR or missing at random (MAR) (Bennet., 2001). Additionally, mean imputation has been proven to yield unbiased estimates of regression coefficients and standard errors when values are missing for less than 10% of subjects in a multi-item instrument (Ekhout et al., 2014). Aside from allowing only plausible values to be imputed from observed values in the respondent pool, hot-deck imputation generates estimates of missing values with values from respondents with matching co-variates (Andridge & Little., 2010).

For each ordinal independent variable that had missing values below 5%, the average median value from respondents with matching covariates was imputed. For continuous variables such as “time to the clinic”, the median values from patients attending the same clinic was imputed. Missingness for dependent variables was ignored for the following reasons. First, the missingness on data for the dependent variables was too small to determine its mechanism and patterns.

Second, complete case analysis with covariate adjustment has been shown to yield similar and unbiased model estimates compared with other methods of missing data imputation in circumstances of missing outcome data in observational studies (Groenwold., 2012).

Data reduction

The first step in the data analysis after data cleaning and handling missing data was exploratory data analysis. For inferential statistics, quantitative variables, both continuous and discrete, were reduced into ordinal categorical variables that made sense conceptually or statistically so that results may be more readily translated into practice, policy, and public health improvements. Furthermore, the number of groups for certain categorical variables with a rare or redundant group(s) was reduced, based on exploratory data analysis or empirical data, to avoid biased estimates and make possible comparison with findings from existing research. For categorical variables where "Not Applicable" is a response option, I decided to leave "Not Applicable" as a separate response category for a better or easier interpretation of results.

For this analysis, principal component analysis (PCA) was employed for the dimensional reduction of highly correlated items into a single variable and to construct scales from several items that represent the same concept in the questionnaire. Additionally, factor analysis (i.e. exploratory and confirmatory factor analysis) was used to investigate the dimensionality of scale items. Further scale development was not considered because the results from factor analysis suggested a unidimensional factor structure for each scale.

Descriptive and bivariate analysis

Descriptive analyses, including frequency distributions, cross-tabulations, measures of central tendency (such as mean, median, and mode) and dispersion (such as range and standard deviation) were used to describe the variables in the data set. In addition, bar charts were used to visually display the frequencies with which selected variables of interest occur.

To assess differences between groups, Pearson's chi-square test (or Fisher's exact test) was used for categorical variables and t-tests or ANOVA used for continuous variables. Pearson's chi-square was also used to determine whether there was sufficient overlap of potential confounders in the dependent variables' categories before conducting a multivariable analysis. Furthermore, univariate logistic regression was used to estimate the unadjusted effects (crude odds ratio and 95% confidence interval) of covariates on binary dependent variables.

Multivariate analysis

The multivariate analysis consists of two parts. First, a descriptive-analytic model tests the first research hypothesis that contextual factors (including individual, interpersonal, community, and structural contexts) influence specific contraceptive behaviours and outcomes (e.g., current use, consistent use and unmet needs). In the second part pertaining to the remainder of the research hypotheses, an explanatory analytic model was used to explore the association between some specific exposure variables and client outcomes. An important point of concern before the multivariable analysis in this thesis, particularly analysis about the first research objective, is the small number of events per variable (EPV). In the literature, a popular rule of thumb, based on two simulation studies, is that EPV should be ten or more in both logistic and cox regression models of observational data to obtain unbiased estimates (Peduzzi et al., 1995; 1996). However, the rule of 10 or more EPV may be too conservative, not a well-defined threshold and inappropriate in observational data, and performance measures in models with 5 to 9 EPV are comparable to those with more than 10 EPV (Vittinghof et al., 2007). Thus, EPV was considered to be at least five in this analysis because invalid estimates can occur when there are too many covariates in a logistic regression model (Vitinghoff & Mccullock., 2007; van Domburg et al., 2014). The coefficients and variances of the regression models are within reasonable limits, validating the outputs from the logistic regression analyses.

To further ensure the reliability of the regression models, the variance inflation factor was used to explore multicollinearity among the covariates in the regression model. In cases where two or more covariates were highly correlated, only the one that was more scientifically or statistically

significant was retained in the model. A general rule of the thumb is that a VIF>10 indicates multicollinearity. To account for clustering at the clinic level, cluster-robust standard errors' command ("vce (cluster clustvar)") was employed (Kirwood & Sterne., 2003). Lastly, the Hosmer-Lemeshow test was used to assess the goodness of fit of the final regression model (Hosmer & Lemeshoe., 1982). All statistical tests were two-sided 95% confidence intervals, interpreted at a 5% level of significance for the final regression models.

Analysis for identifying factors influencing outcome and rationale for the use of the multivariate model

This analysis pertains to the first research hypothesis (H1) stating that following factors will be significantly associated with contraceptive behaviours and related outcomes among female ALHIV: individual, psychosocial, interpersonal, community and societal factors. Given that the inadequacies of the small numbers of EPV and large numbers of parameters in multivariable models pose a big challenge to the estimates of the model (Vitinghoff et al., 2007; van Domburg et al., 2014), both background knowledge and the purposive selection algorithm (PSA) (Bursac et al., 2008; Hosmer & Lemeshow., 2000) were used to reduce a large number of the initial set of covariates in this study (n=30) to an order of magnitude relative to the number of outcome events in the logistic regression models. Based on simulation studies, PSA has been shown to retain significant covariates in logistic regression modelling compared with other well-known variable selection algorithms such as forward, backward and stepwise methods, resulting in a more parsimonious and accurate model (Bursac et al., 2008). Furthermore, PSA yields robust estimates for sample sizes in the range of 240-600, such as this study. Moreover, model building based on PSA made it possible to treat all the covariates in this thesis as equally important (Bursac et al., 2008). For these reasons, PSA was considered a particularly well-suited method for the multivariable model building pertaining to the first research objective in this thesis using the steps described below:

Step 1: Univariate analysis of the association between each independent covariate and each outcome event of interest to identify potential significant covariates.

Step 2: Any variable that had a significant univariate test with an outcome event of interest at the 0.05, 0.1, or 0.25 alpha level was selected for inclusion in the full multivariate analysis. For the models including contraceptive use consistency as the outcome, significance was evaluated at 0.1 alpha level instead of a lower cut-off point to avoid the elimination of essential covariates (Mickey & Greenland., 1989). Furthermore, 0.1 probability level was chosen as a variable entry criterion for the multivariate modelling instead of the more commonly used level, 0.25, to avoid model inadequacies due to a small number of EPV with a broad set of covariates. For the models including current contraceptive use or unintended pregnancy as the outcome, 0.05 probability level was chosen as a variable entry criterion for the initial variable selection to avoid breaking the statistical rule of 5 or more EPV pertaining to the analysis in this thesis. Furthermore, variables that were not significant based on the abovementioned empirical criteria, and identified to be clinically significant based on background knowledge were included in the original multivariate model.

Step 3: A new, smaller model following the elimination of non-significant variables at $p<0.1$ in the full multivariate model in Step 2 was fitted and when a variable with $p\geq0.1$ was taken out one at a time from the full multivariate model, the parameter estimates of any remaining variables in the model did not change by >20%. A change in the parameter estimate of any variable in the full model shows that the excluded variable was a confounder and should be added back to the new, smaller model. Furthermore, the reduced model was compared with the larger, full multivariate model using the partial likelihood ratio test (LRT).

Step 4: To avoid the elimination of variables that made a significant contribution in the presence of other variables, each non-significant variable in Step 1 was added, one at a time, to the model obtained after Step 3. Any variable that was significant at $p<0.1$ either by the Wald test for categorical variables with two levels or the partial LRT for categorical variables with three or more levels was added back to the model, with variables retained after Step 3.

Step 5: Following the conclusion of Step 4, potential interacting variables in the model was performed. Here, a priori' interactions include a) Does proximity to an HIV-care and treatment clinic modify the effect of household SES on any of the above-mentioned outcome event of interest?; b) Does mode of HIV acquisition modify the effect of age on any of the above-mentioned outcome event of interest?; and c) Does having a child/children modify the effect of age on any of the outcome event of interest as mentioned earlier?. Because there were no potential interacting variables in the model obtained after Step 4 for each of the outcome events of interest, the PhD candidate did not test for interactions. All the Individual, relational, community and structural factor included in the final multivariate model are potential confounders for other factors.

Analysis of the relationship between an exposure and an outcome, and the rationale for the use of the multivariate or multinomial model

This analysis pertains to the second research hypothesis through the fifth research hypothesis (H2-4).

1. H2: Female ALHIV that consider themselves at risk of hormonal contraceptive related side effects are less likely to use hormonal contraceptive compared to their peers that do not consider themselves to be at risk.
2. H3: There will be a significant difference between female hALHIV and pALHIV in terms of contraceptive practices, preferences, and needs.
3. H4: Female ALHIV accessing HIV care services at stand-alone youth clinics are more likely to have higher contraceptive use, receipt of contraception services, service quality perceptions and satisfaction, and lower unmet needs for contraception compared to their peers accessing HIV care services at general PHC clinics for all ages.

Since the aim of the analysis about H2-4 was not to determine prognosis or diagnosis but the independent association between the exposure and outcome, a multinomial or multivariate regression model adjusting for potentially confounding variables were employed (Kaltz., 2006). A multinomial regression model was used for both the bivariate and multivariable analyses of H2

to allow for the dependent (outcome) variable with three categories: non-current use of contraception; current use of barrier contraception; and current use of hormonal contraception. Perceived hormonal contraceptive-related safety considerations were investigated as a composite exposure variable, and two categories of the exposure ('low' and 'high') were generated as described in Chapter 3 (see Table 3.2). All variables associated with an outcome and causally associated with a primary exposure variable as well as those that change the coefficient of association between the exposure and outcome by >=10% were considered confounders for model building.

A multivariate logistic regression modelling approach adjusting for confounders was fitted for the analyses relating to H3-4. Regarding H3, the independent effects of mode of HIV acquisition (perinatal/postnatal and horizontal transmission routes) on the following contraceptive/client outcomes were evaluated: receipt of services, current contraceptive use, consistent contraceptive use, unmet needs and unintended pregnancy, service delivery preferences including provider continuity, provider age, provider gender. For H4, the independent effects of clinic model (standalone youth clinics and general PHC clinics) on the following contraceptive/client outcomes were assessed: receipt of services, current contraceptive use, consistent contraceptive use, unmet needs and unintended pregnancy and service quality perceptions.

To minimise the potential bias due to unmeasured confounders, the 0.25 probability level was chosen as a statistical criterion for the identification of a confounder (Kaltz., 2006). Furthermore, any variable that changed the unadjusted coefficient of an exposure variable by ≥ 10% when added to a crude regression model was also selected as a confounder (Lee., 2014). However, to avoid violating the EPV criterion guiding variable selection in this thesis, only variables associated with the exposure and causally related to the outcome were selected as confounders in the multivariate analyses assessing the independent association between an exposure and the following outcomes: a) current contraceptive use; and b) unintended pregnancy.

The identification of effect modifiers was guided a priori by the conceptual framework, empirical findings, and both theory and prior research guided by the literature review. Subsequently, a stratified analysis, using Mantel-Haenszel tests of the association was used to decide which interaction term to include in the multivariable model. To assess the significance of the interaction term(s), the Wald for the null that all interactions in the multivariate regression model were zero was employed. For the multinomial regression model, the joint test was used to assess the significance of the interaction term(s).

Sensitivity analyses

In certain instances, sensitivity analyses were conducted to compare the regression results from the complete case analysis and the missing data analysis (listwise deletion) after simple imputation. Given that the outputs from the regression models with imputed means and list-wise deletion are more or less comparable, the results from the model based on the imputed means are presented in this dissertation.

3.3 Qualitative component – in-depth interviews

This section provides an overview of the qualitative component. First, the rationale for using a qualitative research approach was described. Then, data sources, data collection and instrument, and fieldwork procedures are discussed. Lastly, the data analysis techniques and methodological rigour are described.

3.3.1 Participant types and data collection method

Qualitative in-depth interviews were conducted with a purposively selected sample of key informants with diverse professional roles in healthcare service delivery in the three study sub-districts. These key informants included: sub-district health managers; healthcare facility

managers; HIV clinic managers; doctors and nurses in HIV clinics; and ART adherence counsellors. As system-level key informants, sub-district health managers are likely to offer insight on the potential challenges to and opportunities for policy-making with regards to contraceptive services. Service-level key informants (including healthcare facility managers; HIV clinic managers; doctors and nurses in HIV clinics; and ART adherence counsellors) are directly involved in policy implementation, programme planning or service delivery in their work environment, and are more likely to have a deeper understanding of the health system challenges as well as promising approaches and interventions related to contraceptive service delivery to adolescents than adolescents themselves (Hagey et al., 2015). Initially, a representative from a non-governmental organization who was knowledgeable in contraception service provision to HIV-positive adolescents was contacted for an interview; however, the interview was not possible because the individual was on maternity leave and out of town during the study period.

In-depth interviewing (IDI) was the only data collection method employed in the qualitative component of this study. There are clear advantages to this method for gathering data in health service research. It is particularly suitable for exploring sensitive topics (Liamputtong., 2007; Elmir et al., 2011). In addition, this method yields thick, detailed, holistic and deeper understandings of a phenomenon as there are no effects from pressure dynamics that sometimes characterise the focus group data collection (Pope et al., 2002). For these reasons, focus group interviews were not considered for this study.

3.3.2 Development of Interview guide

A semi-structured interview guide (see Appendix 15), including open-ended/indirect, structuring, non-directing probing and interpreting questions, was developed for in-depth interviews with participants. The questions on the interview guide were developed based on the literature review, the research questions and objectives, and the conceptual framework. The interview questions follow a logical sequence, beginning with warm-up questions and ending with sensitive questions, to allow for a comfortable flow of discussion. Pilot testing of the interview guide was

conducted on two health care providers, and further refinement of the guide was based on participants' responses from the pilot test.

The interview guide, developed in English, includes questions related to the following themes:

1. Knowledge of adolescent contraception;
2. Attitudes towards adolescent contraception;
3. Client's contraceptive attitudes;
4. Contraceptive policy and guidelines;
5. Client's contraceptive practices, preferences and needs;
6. Perspectives on hormonal contraceptive-related safety considerations;
7. Experiences of adolescent contraception;
8. Perceptions of contraceptive service quality;
9. Pathway to contraceptive decision making
10. Contraceptive care-seeking and clinic stigma;
11. Contextual factors related to contraceptive service provision and utilization; and
12. Recommendations on improving contraceptive services.

3.3.3 Fieldwork procedures and sampling

Interview participants were purposely selected from the three sub-districts based on several factors, including professional roles, involvement in care for ALHIV, and ALHIV client load in their healthcare facilities. During the IDIs with the health facilities' managers and ART clinic managers, the participants were asked to recommend other participants in their facilities who they believed were knowledgeable about HIV-care for ALHIV.

Potential participants were invited to participate in the study via e-mail or face-to-face contact and were provided with information about the study. At the study facilities, key informants who were currently working and who had worked at the HIV clinics for three months were purposely recruited for IDIs. The interviews were conducted at a time and location that were convenient

for the participants. All the interviews took place face-to-face in a secluded space, either in a free consulting room or an office, within their worksite. Before each interview, participants were given a copy of the study information sheet (see Appendix 15) to read and two copies of the informed consent form to sign (see Appendix 17). Each participant was given a copy of the informed consent form signed by him/her and the PhD candidate, and a copy was retained by the interviewer.

Participants' demographic information and interview data were collected using the participant's demographic sheet (see Appendix 15) and the digital audio-recordings, respectively, with the participants' permission. The duration of the interviews ranged between 45 mins to 90 minutes. Notes (memos) were written immediately after each interview. After each round of interviews, verbatim transcripts were submitted to the primary supervisor on this project. Comments from the supervisor informed the interview process for the subsequent round of interviews. This process was carried out for several rounds of interviews. The PhD candidate transcribed all the interviews to have a deeper knowledge of how to reflect on the views of participants and to reformulate the interview questions.

3.3.4 Data analysis methods

Analysis of in-depth interview data from healthcare providers was guided by an iterative and recursive six-phase thematic analytic method proposed by Braun and Clark (2006). Thematic analysis –defined as a "method for identifying, analysing, and reporting patterns (themes) within data"- has the advantage of yielding rich, detailed account of the various aspects of the research phenomena (Boyatzis., 1998; Braun & Clark., 2006). Its flexible approach to data analysis makes it usable within different theoretical frameworks and across the epistemological and ontological spectrum (Braun & Clark., 2006). The qualitative data were analysed using the six-phases described below:

i. **Data familiarisation:** This began with conducting and transcribing of the interviews immediately after each round of interview. Transcripts were read and re-read to develop familiarity with the data further, make memos and summaries, and identify relevant meanings and patterns.

ii. **Generation of codes:** Coding was performed using NVivo 11 software. Semantic and latent codes were generated both deductively and inductively for several potential themes, subthemes and patterns. An initial coding framework was developed based on a random sample of interviews with healthcare providers in different professional categories. The following coding methods were employed: holistic, descriptive, structural, magnitude, attribute, values, theming and sub coding (Saldana., 2015). The coding process was iterative and recursive.

iii. **Searching for themes:** After the initial coding of all data in a data set, all conceptually related codes and their extracts were collated into a broader level of potential themes, which were then refined into candidate themes and sub-themes.

iv. **Reviewing themes:** Candidate themes were reviewed and refined to ensure that the data within each theme were coherent and conceptually related. When necessary, data were recorded from the dataset. A thematic map was devised to aid in the refinement of candidate themes and sub-themes.

v. **Defining and naming themes:** Themes were defined, and initial themes/sub-themes were further refined within the thematic map by reviewing the data extracts for each theme. This led to the formation of a coherent, conceptually related account, resulting in final themes and sub-themes.

vi. **Producing the reports- interpretative analysis and write-ups: Using** thematic matrices, the meaning and implications of each theme/subtheme as well as their underpinning assumptions were the diverse groups of the research participants.

3.3.5 Trustworthiness in qualitative data collection and analysis

To ensure the quality of the qualitative inquiry and to avoid potential doubts or biases that might arise during and after the qualitative research process, qualitative methodological researchers have proposed trustworthiness criteria. These consist of four features: credibility, transferability, dependability, and confirmability (Lincoln & Guba., 1985). The measures employed in this study to combat the potential limitations of trustworthiness throughout the data collection process and analysis are as follows:

Credibility: validity of the findings

Through meetings with stakeholders (including potential interview participants) prior to data collection, as well as extended interaction with the IDI participants (providers), a sense of trust, rapport and familiarity was developed between the respondents and myself. Two types of triangulation, data source triangulation and method triangulation were utilised. Denzin (1978) and Patton (1999) mention triangulation as a key element in ensuring a comprehensive understanding of a research problem and testing the validity of research findings. Member checks (i.e. providing participants with summaries of their responses at various intervals during interviews and at the end to elicit clarifications) were also utilized to minimise the potential for researcher bias during data analysis and interpretation. Also, regular debriefing of the study supervisors during the data collection and analysis enhanced the interview technique and ensured that findings were crosschecked with feedback. Furthermore, data analysis (coding) was conducted on an ongoing basis, as the data were collected, to understand and explore unexpected findings, thereby adding depth to the results.

Transferability: the applicability of the findings of qualitative inquiry in another context

In-depth details/thick description regarding the research methodology and context helps to ensure that the study is replicable in other possible contexts (Lincoln & Guba., 1985; Li., 2004).

The multisite design of this study may give its findings significant potential in terms of transferability to other similar contexts.

Dependability: reliability of the findings at another time

A detailed, step-by-step description of the approach to the qualitative inquiry as well as the evaluation of the codes and extracts of data by the study supervisors ensured the stability of the findings over time.

Confirmability: objectivity of the researcher during the research process

In addition to the audit trail/thematic mapping described above, confirmability was established in part by a reflexive journal I kept during the research process. Several qualitative methodologists asserted that confirmability could be achieved through an audit trail, triangulation and reflexive journal (Bowen, 2009; Koch, 2006; Lincoln & Guba, 1985). The PhD candidate researcher conducted all the interviews and analysed the data. This may have introduced bias to his interpretation of the qualitative findings. Examination of the research process and findings by the research supervisors helped to minimise bias to the PhD candidate's interpretation of the findings.

3.4 Data triangulation

The integration of quantitative and qualitative data helps leverage the findings of mixed-methods research (Fetters et al., 2013). In this thesis, quantitative and qualitative data were obtained and analysed separately, and then findings from both data sources were merged in the interpretation of the results in the discussion chapter, thereby integrating the quantitative survey and qualitative interview results in a narrative. This allows for findings from both data sources to be compared and validated.

In the context of concurrent mixed methods design, as exemplified by this present study, integration of both quantitative and qualitative data usually occurs during the analysis or discussion phase of the study (Cresswell, 2003; Cresswell & Plano, 2007). Beck et al. (2009) provide an illustration of the integration of qualitative and quantitative results at the interpretation level. The qualitative findings are useful in clarifying and explaining some findings from the quantitative survey data. For example, the qualitative data provide explanations for the heavy reliance of female ALHIV on injectable contraception.

3.5 Ethical considerations

3.5.1 Ethical issues specific to minors

The ethical issues around a parent's/legal guardian's permission were considered. Under the Children's Act (2005), a parent or legal guardian must permit a child to participate in research. Thus, an adolescent minor (14 – 17 years of age) participated in this research only where a proper written parent's or legal guardian's permission had been obtained (see Appendixes 2 & 3). The assent and parental consent forms included explicit information on reporting obligations for abuse and neglect and the procedures to be followed in cases where abuse or neglect was reported by the minor or parent, or suspected by a fieldworker. Further, all adolescent minors were required to sign an assent form before participation in the study (see Appendixes 10 & 11).

3.5.2 Informed consent

Fieldworkers were required to confirm that the adolescent demonstrated an understanding of the information sheet and consent form before conducting the actual interview. To ensure that the female ALHIV had an adequate understanding of the study's purpose and the potential risks and benefits of participation, as well as the voluntary nature of participation, an information

sheet and consent form were reviewed orally using the adolescent's language of choice (English, Xhosa or Afrikaans). For the key informants, the consent form was available only in English, and it was reviewed with the participants before the start of the interview. Written consent was required from every participant before participating in actual interviews.

3.5.3 Anonymity and confidentiality

Several measures were taken to address anonymity and confidentiality issues both during and after the research process. Participant recruitment was done discretely. Female ALHIV that the information they provided during the interviews would be kept confidential. However, adolescent minors (and their parents) were informed that there is a mandatory requirement by law to report cases of child sexual abuse or maltreatment to the relevant authority. Personal identifiers were not attached to the research data. Fieldworkers were required to sign an agreement to protect the confidentiality of identifiable information. Verbatim quotations from qualitative research participants and the study clinics are anonymised in this dissertation. The anonymity of all study participants (adolescents and key informants) was ensured on the consent forms.

3.5.4 Beneficence and non-malfeasance

To avoid the minimal risks, including discomfort, associated with the participation of ALHIV in the interview process, the questionnaire began with general questions, progressing from less sensitive to more sensitive questions. Fieldworkers were trained on effective communication techniques for discussing sensitive issues with female ALHIV, including non-judgemental attitudes and how to ensure that all interviewees were comfortable during the interview.

In order to ensure that ALHIV who experienced psychological discomfort from the interview process were identified early on and properly managed, fieldworkers were trained by a clinical

psychologist (with expertise in adolescent psychology) in the detection of psychological discomfort and support skills for managing psychological discomfort or traumatic events. At the end of the interview, each participant was asked whether she had felt uncomfortable while participating in the research. Moreover, all adolescent participants were given a phone number through which they can contact a member of the research team if they had any questions or problems related to participation in the interview after they left. Furthermore, an arrangement was also made to refer all instances of child abuse or maltreatment, criminalised by the law, for sexual abuse services per the Western Cape's guidelines.

3.5.5 Right to withdraw from the research

Potential participants were made to understand that they could withdraw at any time during the interviews, or refuse to respond to some or all questions and that such withdrawal or refusal would have no consequences for them. This information was provided during the recruitment and before the actual interviews began. Whether a potential adolescent participant agreed or declined to participate in the study would not affect care. The participation of key informants in the research was voluntary, and refusal to participate would not affect their job security.

3.5.6 Other ethical considerations

The reimbursement of research participants, particularly adolescents, is another important ethical issue. To avoid the possibility of coercion and desirability bias, adolescents were provided with light refreshments or gift vouchers where applicable, and they were reimbursed if they had incurred travel costs. However, key informants were not reimbursed or given any gift, to prevent social desirability bias.

All paper-based records were stored in a locked filing cabinet. Moreover, computer-based records were in a password-protected file on a computer. The password-protected file was also used to store the audio files of the interviews. Additionally, the UCT REDCap -a password-

protected, web-based and secure application- was also used for data storage. The audio recordings were erased from the tape recorders, and the field notes were destroyed after the transcription was finalised. All of the signed consent forms are kept under lock and key in a cabinet in the postgraduate students' office at the School of Public Health and Family Medicine, University of Cape Town, and these will be destroyed three years from the date the research was concluded. At this time, all audio files will also be destroyed.

Ethics approval was obtained from the Human Research Ethics Committee (HREC) at the University of Cape Town, and facility approval was acquired from the City and Western Cape Department of Health. Approval was also sought from the management committees at participating facilities.

4.0 Quantitative datasets description

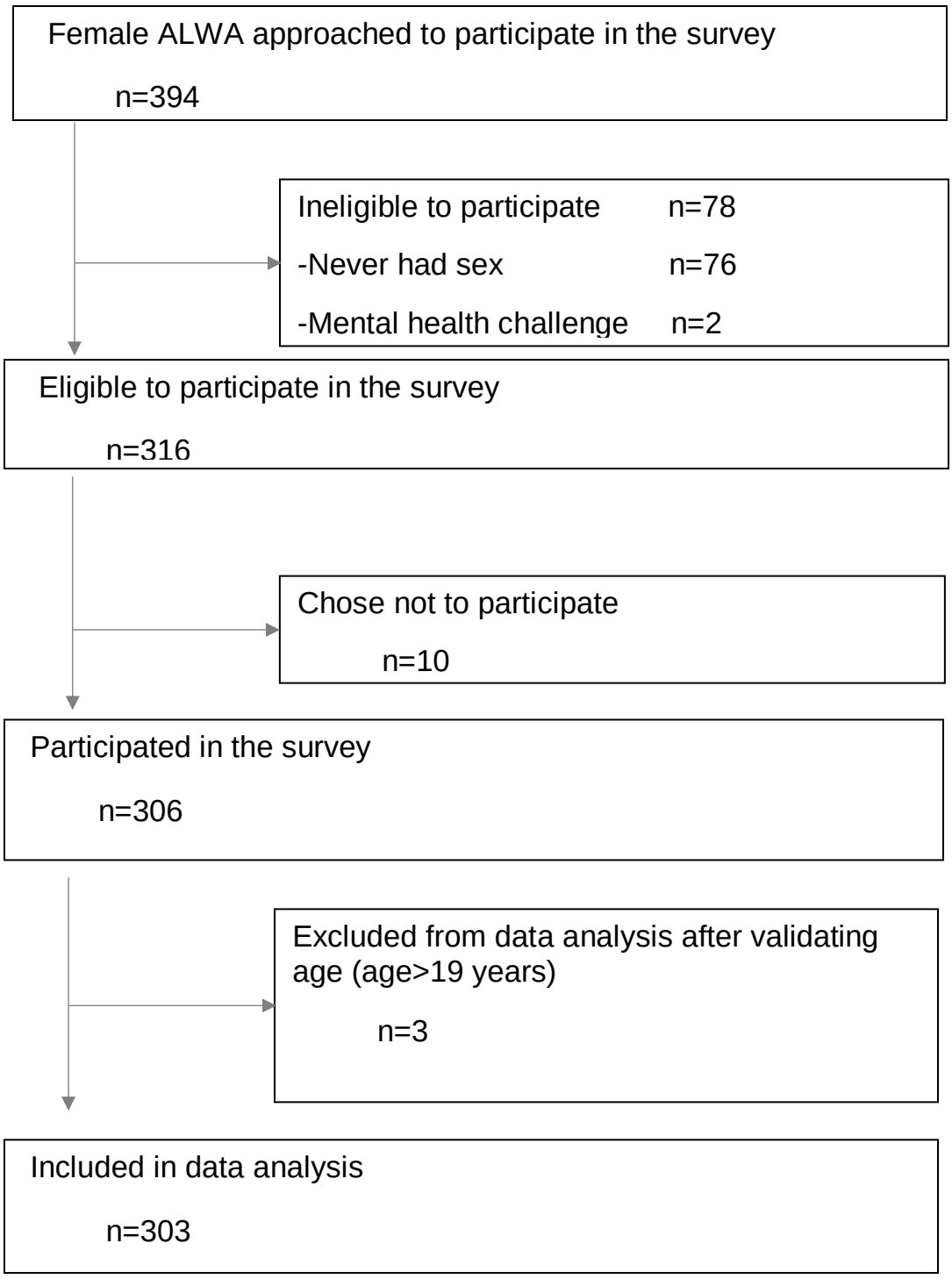
This chapter, divided into three subsections, presents the survey response rate, item response rates, and profile of cross-sectional study participants. In the first subsection, the response rate among the sampled participants is described. The second subsection provides the summary statistics of missing data occurring on the dependent and independent variables. The third subsection outlines the descriptive statistics for background characteristics of the study population in the quantitative dataset, organised by multiple levels of determinants of health (described in Chapter 3), including individual, relational, community, and structural factors. The descriptive analyses of the dependent variables appear in the subsequent quantitative results chapters.

4.1 Participation rate

The survey was conducted between March and July 2017. Data collection was discontinued by the end of July 2017 when it seemed that most eligible participants retained in HIV care across the clinics had been interviewed. Figure 4.1 illustrates the recruitment process flow chart. In total, 394 individuals between 14-19 years of age were approached to participate in the study. Of the total 316 eligible to participate in the survey, 303 were included in the data analysis; giving a 95.9% response rate. Thus, the survey results likely represent the views and experiences of the population of female ALHIV in care across the three sub-districts.

The majority of ALHIV in care who were excluded from participating in the survey were ineligible because they had never had sex (97%; 76/78). Also, two individuals were ineligible due to mental challenges. Three individuals who were 20 years of age at the time of participation in the survey were interviewed erroneously. The inconsistency between the date of birth and the age given on the questionnaire helped to identify these three individuals. Unfortunately, there is no further information on the patterns of study participation by participants' characteristics.

Fig 4.1: Study flowchart for the survey recruitment process



4.2 Missing data

Some independent and dependent variables included in the analysis had missing values; these ranged from less than 1% to approximately 15% (see table 4.1 below). The variable with the most common missing values is CD4 cell count (32.7%), followed by the length of enrolment into the clinics since testing positive for HIV (14.5%). Because the CD4 cell count had more than 20% of its values missing, this variable was not included in the missing data analysis (see the rationale in Section 3.2.6). There was significant missing data for CD4 cell count and length of enrolment into the clinics since testing positive for HIV due to the inability of respondents to recall the absolute values for these two variables. There was no way to retrieve missing values for the two variables mentioned above from the client's health records during questionnaire administration because permission to access client medical record or chart was not sought in the application for facility approval to conduct the research.

Table 4.1: Proportions of missing data

Independent variables	**n**	**%**
Household wealth index	1	0.3
Time to clinic	14	4.6
Length of enrolment (into clinics)	44	14.5
Perceived mother-child communication	4	1.3
Perceived peer influence	1	0.3
Perceived community attitudes	1	0.3
Age at sexual debut	9	3
Partner age-gap	2	0.7

CD4 cell count	99	32.7
Contraceptive self-efficacy	2	0.7
HIV-status disclosure	1	0.3
Felt stigma	1	0.3
Dependent variables		
Consistency of condom use (past 3 months)	1	0.3
Receipt of dual-method contraception (at any public health facility)	6	2.0
Receipt of dual-method contraception (at current HIV care clinic)	10	3.3
Hormonal contraception safety issues		
Risk of HIV disease progression	2	0.6
Risk of reduced ART efficacy	1	0.3
Service quality perception		
Friendliness of staff	6	2.0
Provider continuity	4	1.4
Being treated with respect	6	2.0
Privacy of consultation	1	0.3
Waiting time	4	1.4

Availability of preferred contraceptive method in clinic	5	1.7
Recommend a clinic to a friend	2	0.6

4.3. Background characteristics of the study population

Background characteristics of the study population are presented according to multiple levels: (1) individual-level factors; (2) relationship-related factors; (3) community factors; and (4) structural factors (Table 4.2). First, individual factors are described. In the total sample (n = 303), the ages of the female ALHIV range from 14 – 19 years old, with 59.4% of participants between 18 and 19 years old. Most female ALHIV (94.4%) had completed at least grade 7 level of education. Fifteen per cent of the total sample had delivered at least one child. HIV-infection was acquired through behavioural transmission routes (rather than perinatal routes) in 203 (67%) female ALHIV. In terms of the time since first enrolled into HIV care, approximately 56% of the participants had been in HIV care and treatment for less than one year. Of the 278 female ALHIV who had access to ART, 66.7% self-reported adherence to their ART doses in the past four days, while 33.5% reported that they missed taking any of their ART medications on at least one day during the same time frame (56.9%, 23.7%, 7.5% and 11.8% missed ART doses in the past one, two, three and four days, respectively). The aggregate median hormonal contraceptive-related safety considerations' score using four dimensions, including HIV disease progression, ART effectiveness, sexual HIV transmission, and contraceptive failure, was 2.5 (out of 5) (see Appendix 2: items 501a – d). Approximately two-thirds of the sampled participants reported higher levels of perceived hormonal contraceptive risks specific to HIV-positive populations. Regarding client satisfaction with contraceptive services, slightly more than half (52.8%) of female ALHIV reported higher levels of satisfaction.

At the relational level, around 60.1% of participants had less than five-year age gaps with their current male sexual partners. Of the 35% who had five-or-more year age gaps with their current partners, there was no case where the male partner was five or more years younger. Fifty-one per cent of female ALHIV reported higher perceived partner influence on contraceptive use. Seventy-one per cent of female ALHIV perceived high positive parent communication about contraception. The primary caregivers for most females ALWH were parents (62.1%) or relatives (32.3%). Approximately 54% of female ALHIV reported disclosing their HIV-status to their current regular male sexual partners.

In terms of community-characteristics, self-reported travel times from home to the clinics were less than or equal to 30 minutes for the majority of female ALHIV (81.9%). High HIV-related felt stigma was reported by 57.8% of female ALHIV. About a third of the sampled participants (64.0%) perceived that their community would agree to contraceptive use among female ALHIV.

Regarding structural characteristics, slightly less than three-fifths (58.1%) of the sampled participants had secondary education. A lower proportion (45.9%) of the survey population attended standalone youth clinics providing HIV services. Slightly less than half (46.9%) of female ALHIV belonged to households in the middle wealth index tertile, with 36% belonging to households in the wealthiest tertile, and 17.2% belonging to households in the poorest tertile. Most of the female ALHIV (94.7%) in the sample were unemployed. Over 68% of female ALHIV reported receipt of contraceptive counselling from any public health facility since testing positive for HIV. In terms of HIV-specific factors, the majority of female ALHIV were currently taking ART (91.8%) and currently a member of peer support groups (83.5%).

Table 4.2 Background characteristics of study participants

Variable	Category	N	%
Individual characteristics			
Age group	14-17	123	40.5
	18-19	180	59.5
Mean		17.5	
Median (range)		18 (14-19)	
Education	None/<Grade 7	17	5.6
	Grade 7 and above	286	94.4
Alcohol use[†]	No	61	20.1
	Yes	242	79.8
Cigarette smoking	No	247	81.5
	Yes	56	18.4
Time enrolled at clinic	<1 year	169	55.8
	1-2 years	77	25.4
	>2 years	57	18.8
Mode of HIV infection	pALHIV	100	33.0
	hALHIV	203	67.0
ART adherence	Not on ART	25	8.3
	Non-adherence[‡]	93	30.7
	Adherence	185	61.0

Age at sexual debut	Less than 15 years	100	33.0
	15 years and above	203	67.0
Mean		15.1	
Median (range)		15(11-18)	
Living children	None	257	84.8
	One	46	14.2
	Two	2	0.3
	Three or more	1	0.3
Self-efficacy to use Contraception	Low	122	40.3
	High	181	59.7
Client satisfaction with contraceptive service¥	Low	143	47.2
	High	160	52.8
Perceived hormonal contraceptive risks specific to HIV-positive populations	Low	129	42.6
	High	174	57.4
Relational characteristics			
Partner age-gap	5 years and above	107	35.3
	Below 5 year	182	60.1
	No partner	14	4.6
Mean		4.0	
Median (range)		4.0 (0-19)	

No. sex partners in past 12 months	None	14	4.6
	1 sex partner	197	65.0
	>1 sex partners	92	30.4
Mean		1.4	
Median (range)		1 (0-5)	
Disclosure of HIV-status to Partner	Disclosed status	164	54.1
	Status not disclosed	139	45.9
HIV concordance	Sero-discordant	92	30.4
	Sero-concordant	53	17.5
	Partner HIV-status unknown	158	52.1
Perceived peer influence on contraceptive use	Low	149	49.2
	High	157	50.8
Parent-adolescent Communication	Low	88	29.0
	High	215	71.0
Perceived partner influence on contraceptive use	Low	148	48.8
	High	155	51.2
Living arrangement	Male partner/alone	17	5.6
	Other relatives	98	32.3
	Parents	188	62.1
Community characteristics			
Distance from clinic	0-30 mins	248	81.9

	>30 mins	55	18.2
Mean		28.2	
Median (range)		30 (3-180)	
Perceptions of community acceptance of contraceptive use	Low	109	36.0
	High	194	64.0
HIV-felt stigma	Low	128	42.2
	High	175	57.8
Structural characteristics	Low	52	17.2
Household SES	Medium	142	46.9
	High	109	35.9
Parental education	None/primary	68	22.4
	Secondary above	176	58.1
	Unknown	59	19.5
Current membership of HIV support group	No	50	16.5
	Yes	253	83.5
Employment	No	287	94.7
	Yes	16	5.3
Type of clinic attended	Stand-alone youth clinic	164	54.1
	General primary healthcare clinic	139	45.9

Current ART use	No	25	8.3
	Yes	278	91.7
Ever received contraception counselling at any public clinic since testing positive for HIV	No	96	31.7
	Yes	207	68.3

[ŧ]Ever drank alcohol

[‡]Missed taking ART during the past four days

[¥]During last clinic visit

[ᵒᵒ]Household SES (socio-economic status) calculated using principal component analysis

5. Factors influencing contraceptive practices among female ALHIV attending PHC services

This chapter presents study's results on the multilevel (individual, interpersonal, community and structural) factors affecting indicators of contraceptive utilisation, including current contraceptive use, consistency of contraceptive use, unmet needs for contraception and unintended pregnancy among female ALHIV. For each indicator of contraceptive utilisation, a description of the quantitative dataset, organised by outcome measures and independent variables – individual, relational, community, and structural factors is presented first, followed by a presentation of the multilevel factors from the regression analysis.

5.1 Current contraceptive use

5.1.1 Descriptive analysis

Table 5.1 displays the current contraceptive behaviours and practices of female ALHIV. Overall, 83.5% of female ALHIV reported current contraceptive use, and the methods used were exclusively modern methods of contraception. A total of 86.8% (n=190) of female ALHIV who have had sexual intercourse within the three months preceding the survey (n=219) reported current use of any modern method of contraception. Among current contraceptive users, the majority used injectable contraceptives (60.5%), followed by those who used condoms alone as a primary contraceptive (27.7%), implants (5.9%), IUDs (3.2%) and hormonal pills (2.7%). In total, 85% (n=130) of the current injectable contraceptive users reported using a particular injectable contraceptive method, and of those, the majority were norethisterone enanthate (NET-EN) injectable contraceptive users (57.7%). Female condom use among those who reported condoms alone as a primary contraceptive was very low (n = 1). Overall, 48.6% of current contraceptive users (n=253) reported using dual-methods. Among current dual-method users, in addition to condoms, 79.7% used injectable contraceptives, followed by implants (8.8%), then IUDs (5.7%) and hormonal pills (5.7%).

Table 5.1 Frequency and distribution of current contraceptive use

Characteristics	N	%
Any current contraceptive use		
Using modern method	253	83.5
Using traditional method	0	0.0
Not using any method	50	16.5
	Total 303	100
Current use by primary method type[ǂ]		
Condoms (only)	70	27.7
Injectable	153	60.5
NET-EN	75[*]	57.7[*]
DMPA	55[*]	42.3[*]
Not known[**]	23	
Implants	15	5.9
IUD	8	3.2
Pills	7	2.7
	Total 253	100
Method mix among current dual-method users		
Injectable	98	79.7
NET-EN	52 [*]	60.5[*]
DMPA	34 [*]	
Not known[**]	12	39.5[*]
Implants	11	8.8
IUD	7	5.7
Pills	7	5.7
	Total 123	100

[*]Percentage of injectable method mix, exclude those who reported not knowing their particular injectable methods

[**]Injectable method used not known

[ŧ]Percentage of method mix, excluding non-current contraceptive users

Table 5.2 presents the distribution of the current contraceptive status by multiple levels: (1) individual-level factors; (2) relationship-related factors; (3) community factors; and (4) structural factors. Significantly more female ALHIV who had at least secondary education were current contraceptive users compared to those who had primary education or never attended school (p=0.03). Female ALHIV who had late first sexual intercourse were significantly more likely to be current contraceptive users compared to female ALHIV who had early first sexual intercourse (87.7 vs. 75.0, p=0.01). Seventy-six percent of female ALHIV who reported low perceived partner influence on contraceptive use were currently using a contraceptive method, compared with 90% of female ALHIV with higher perceived partner influence on contraceptive use (p=0.001). Female ALHIV who had a primary caregiver with at least secondary education most frequently used contraception currently (88.1%), followed by those who had a primary caregiver with primary/no education (77.9%) and those who were unaware of the educational status of their primary caregivers (76.3%), but the differences are significant (p=0.004).

Table 5.2 Background characteristics of study participants by current contraceptive use

Variable	Category	Current contraceptive use[a] % (n)	p-value x^2
Individual factors			
Age group	14-17	78.9 (97)	0.07
	18-19	86.7 (156)	
Education	None/<Grade 7	64.7 (11)	0.03
	Grade 7 and above	84.6 (242)	
Alcohol use[ŧ]	No	75.4 (46)	0.06
	Yes	85.5 (207)	
Cigarette smoking	No	85.0 (210)	0.13
	Yes	76.8 (43)	
Time enrolled in the clinic	<1 year	80.5 (136)	0.26
	1-2 years	88.3 (68)	
	>2 years	85.9 (49)	
Mode of HIV infection	pALHIV	87.0 (87)	0.25
	hALHIV	81.8 (166)	
ART adherence	Not on ART	76.0 (19)	0.52
	Non-adherence[ǂ]	82.8 (77)	
	Adherence	84.5 (157)	
Age at sexual debut	Less than 15 years	75.0 (75)	0.01

	15 years and above	87.7 (178)	
Living children	No children	82.5 (212)	0.26
	One child or more	89.1 (41)	
Self-efficacy to use Contraception	Low	79.5 (97)	0.12
	High	86.2 (156)	
Client satisfaction with contraceptive service[¥]	Low	79.7 (114)	0.09
	High	86.9 (139)	
Perceived hormonal contraceptive risks specific to HIV-positive populations	Low	83.7 (108)	0.93
	High	83.3 (145)	
Relational factors			
Partner age-gap	5 years and above	78.5 (84)	0.22
	Below 5 year	86.3 (157)	
	No partner	85.7 (12)	
No. sex partners in past 12 Months	None/1 sex partner	83.4 (176)	0.95
	>1 sex partners	83.7 (77)	
Disclosure of HIV-status to partner	Disclosed status	81.7 (134)	0.36
	Status not disclosed	85.6 (119)	
HIV concordance	Sero-discordant	86.9 (80)	0.46
	Sero-concordant	79.2 (42)	

	Partner HIV-status Unknown	82.9 (131)	
Perceived peer influence on contraceptive use	Low	80.5 (120)	0.17
	High	86.3 (133)	
Parent-adolescent Communication	Low	79.5 (70)	0.24
	High	85.1 (183)	
Perceived partner influence on contraceptive use	Low	76.3 (113)	0.001
	High	90.3 (140)	
Living arrangement	Male partner/alone	70.5 (12)	0.24
	Other relatives	86.7 (85)	
	Parents	82.9 (156)	
Community characteristics			
Distance from clinic	0-30 mins	83.5 (207)	0.98
	>30 mins	83.6 (46)	
Perceptions of community acceptance of contraceptive use	Low	86.2 (94)	
	High	82.0 (159)	0.34
HIV-felt stigma	Low	81.3 (104)	0.37
	High	85.1 (149)	
Structural characteristics			

Household SES	Low	94.2 (49)	0.07
	Medium	81.0 (115)	
	High	81.7 (89)	
Parental education	None/primary	77.9 (53)	0.004
	Secondary above	88.1 (155)	
	Unknown	76.3 (45)	
Current membership of HIV support group	No	81.4 (179)	0.10
	Yes	89.2 (74)	
Employment	No	83.3 (239)	0.66
	Yes	87.5 (14)	
Type of clinic attended	Stand-alone youth clinic	82.9 (136)	0.77
	General primary healthcare clinic	84.2 (117)	
Current ART use	No	76.0 (19)	0.29
	Yes	84.2 (234)	
Receipt of contraceptive Counselling	No	78.1 (75)	0.09
	Yes	86.0 (178)	

[ŧ]Ever drank alcohol

[‡]Missed taking ART during the past four days

[¥]During last clinic visit

[ᵕ]Household SES (socio-economic status) calculated using principal component analysis

[a]Include condoms as well as other forms of contraception

5.1.2 Factors associated with current contraceptive use

Table 5.3 displays the results of the unadjusted odds of current contraceptive use along with the adjusted odds of variables included in the baseline and final multivariate models. In the final multivariate analysis, alcohol consumption (aOR 2.23 CI 95% [1.08, 4.63]) and late first sexual intercourse (aOR 2.39 CI95% [1.18, 4.84]) were significantly associated with current contraceptive use at the individual level. Of the relational factors, having high perceived partner support for contraception (aOR 2.97 CI 95% [1.50, 5.87]) was associated with significantly higher odds of current contraceptive use in the adjusted analysis. After adjusting for other factors, no community factors had significant effects on current contraceptive use. At the structural level, belonging to households in the middle wealth index tertile was associated with significantly lower odds of current contraceptive use (aOR 0.25 CI 95% [0.07, 0.91]).

Table 5.3: Multivariate correlates of current contraceptive use[a]

Variables	Category	cOR (95%CI)	aOR (95%CI) ‡
Individual characteristics			
Age group	14 – 17	1.00	1.00
	18 – 19	1.74 (0.95 – 3.21)	1.36 (0.68 – 2.72)
Alcohol use[ł]	No	1.00	1.00
	Yes	1.93 (0.97 – 3.82)	**2.23 (1.08 – 4.63)**
Age at sexual debut	<15 years	1.00	1.00
	>=15 years	2.37 (1.28 – 4.40)	**2.39 (1.18 – 4.84)**
Relational characteristics			
Perceived partner	Low	1.00	1.00
influence on	High	2.89 (1.50 – 5.56)	**2.97 (1.50 – 5.87)**

contraceptive use			
Structural characteristics			
Household SES	Low	1.00	1.00
	Medium	0.26 (0.08 – 0.90)	**0.25 (0.07 – 0.91)**
	High	0.27 (0.08 – 0.96)	0.29 (0.08 – 1.06)

[t]Ever drank alcohol

‡ Variables included in the final model; significant associations ($p<0.05$) highlighted

[a]Include condoms as well as other forms of contraception

5.2 Consistent contraceptive use

5.2.1 Descriptive analysis: consistent condom use

This analysis excluded female ALHIV who reported they had not had sexual intercourse during the three months preceding the survey. Overall, 72% (219) of the sample participants were sexually active during the three months preceding the survey, and of those, 67.1% reported that they used condoms during their last sexual intercourse (see Table 5.4). Slightly less than two-fifths reported consistent condom use, 47.5% were inconsistent condom users and 11% did not use condoms for any vaginal intercourse during the past three months.

Table 5.4 Frequency and distribution of indicators of consistent condom use

Characteristics	N	%
Condom use[ǂ]		
Condom use at last sex	147	67.1
Condom used	72	32.9
Condom not used	0	0.00
No response[+]	**Total** **219**	100
Condom use in the past 3-months		
Consistent user	83	37.9
Inconsistent user	104	47.5
Never used condoms	24	11.0
No response[+]	8	3.6
	Total **219**	100

[ǂ]Data analysis restricted to respondents who self-reported sex within 3-months before participation in the survey (data on self-report of sex within past 3-months are missing for only two participants in the entire data set N=303)

Table 5.5 displays the bivariate data on condom use consistency by multiple levels: (1) individual-level factors; (2) relationship-related factors; (3) community factors; and (4) structural factors. More than two-fifths of female ALHIV who were adherent with their ART medications used condoms consistently, while about one-third of those not adherent with their ART medications used condoms consistently and 13% of those that were ART naïve used condoms consistently (p=0.01). Significantly more female ALHIV who had late first sexual used condoms consistently compared with their peers who had early first sexual intercourse (p=0.04). Female ALHIV who

reported less than five –year age gaps in a current relationship most frequently used condoms consistently (45%), while 30% of their counterparts who reported five-or-more year age gaps in a current relationship used condoms consistently and 33% of those who had no sexual partners at the time of the survey reported consistent condom use (p=0.01). Female ALHIV reporting multiple sexual partnerships had a lower percentage of consistent condom use compared to those without multiple sexual partnerships (26% vs. 44%, p=0.01). Consistent condom use was significantly higher among female ALHIV reporting current use of ART compared to those who reported non-current use of ART (p=0.01). Also, the proportions of female ALHIV reporting consistent condom use vary across the tertile of wealth index (p=0.01).

Table 5.5 Background characteristics of study participants by condom use consistency

Variable	Category	Consistent condom use %(n)	p-value x2
Individual factors			
Age group	14-17	35.5 (27)	0.60
	18-19	39.2 (56)	
Education	None/<Grade 7	30.0 (3)	0.60
	Grade 7 and above	38.3 (71)	
Alcohol use[ł]	No	41.7 (15)	0.61
	Yes	37.2 (68)	
Cigarette smoking	No	37.1 (65)	0.65
	Yes	40.9 (18)	
Time enrolled in clinic	<1 year	34.1 (44)	0.29
	1-2 years	40.0 (20)	
	>2 years	47.5 (19)	

Mode of HIV infection	pALHIV	47.5 (29)	0.07
	hALHIV	34.2 (54)	
ART adherence	Not on ART	13.0 (3)	0.01
	Non-adherence	33.3 (22)	
	Adherence	44.6 (58)	
Age at sexual debut	Less than 15 years	25.0 (16)	0.01
	15 years and above	43.2 (67)	
Living children	No children	37.9 (69)	0.89
	One child or more	38.9 (14)	
Self-efficacy to use	Low	31.0 (26)	0.10
Contraception	High	42.2 (57)	
Client satisfaction with	Low	30.3 (30)	0.04
contraceptive service	High	44.2 (53)	
Perceived hormonal	Low	33.7 (33)	0.23
contraceptive risks specific	High	41.3 (50)	
to HIV-positive populations			
Relational factors			
Partner age-gap	5 years and above	29.5 (28)	0.01
	Below 5 year	44.6 (54)	
	No partner	33.3 (1)	
No. sex partners in past 12	None/1 sex partner	43.6 (65)	0.01
Months	>1 sex partners	25.7 (18)	

Disclosure of HIV-status to partner	Disclosed status Status not disclosed	37.8 (42) 38.0 (41)	0.99
HIV concordance	Sero-discordant Sero-concordant Partner HIV-status Unknown	48.1 (37) 28.2 (11) 34.0 (35)	0.06
Perceived peer influence on contraceptive use	Low High	35.9 (38) 39.8 (45)	0.55
Parent-adolescent Communication	Low High	35.3 (24) 39.1 (59)	0.59
Perceived partner influence on contraceptive use	Low High	31.4 (33) 43.5 (50)	0.07
Living arrangement	Male partner/alone Other relatives Parents	33.3 (5) 40.9 (29) 36.8 (49)	0.80
Community factors			
Distance from clinic	0-30 mins >30 mins	38.9 (70) 33.3 (13)	0.52
Perceptions of community acceptance of contraceptive use	Low High	35.3 (24) 39.1 (59)	0.96
HIV-felt stigma	Low	38.8 (38)	0.81

	High	37.2 (45)	
Structural factors			
Household SES	Low	60.0 (21)	0.01
	Medium	37.0 (37)	
	High	29.8 (25)	
Parental education	None/primary	28.9 (15)	0.14
	Secondary above	37.9 (47)	
	Unknown	48.8 (21)	
Current membership of HIV support group	No	34.2 (54)	0.07
	Yes	47.5 (29)	
Employment	No	37.7 (78)	0.78
	Yes	41.7 (5)	
Type of clinic attended	Stand-alone youth clinic	42.2 (46)	0.19
	General primary healthcare clinic	33.6 (37)	
Current ART use	No	13.0 (3)	0.01
	Yes	40.8 (80)	
Receipt of contraceptive counselling	No	32.4 (24)	0.23
	Yes	40.9 (59)	

[ł]Ever drank alcohol

[‡]Missed taking ART during the past four days

[¥]During last clinic visit

℃Household SES (socio-economic status) calculated using principal component analysis

5.2.2 Factors associated with consistency of condom use

Unadjusted odds and adjusted odds of consistency of condom use are summarized in Table 5.6. None of the individual-level factors was significantly associated with condom use consistency in the final adjusted analysis. At the relational level, age-disparate partnerships with age gaps of fewer than five years were significantly associated with consistency of condom use (aOR 1.75 CI 95% CI [1.19, 2.57]). Female ALHIV with two or more sexual partners were significantly less likely to use condoms consistently compared to those with one sexual partner (aOR 0.51 CI 95% [0.26, 0.97]). None of the community factors was significantly associated with condom use consistency in both unadjusted and adjusted analyses. At the structural level, belonging to households in the high wealth index tertile was associated with significantly lower odds of condom use (aOR 0.30 CI 95% [0.10, 0.87]).

Table 5.6: Multivariate correlates of condom use consistency

Variables	Category	cOR (95%CI)	aOR (95%CI) ‡
Individual characteristics			
Self-efficacy	Low	1.00	1.00
	High	1.63 (0.92-2.90)	1.70 (0.91 – 3.19)
Relational characteristics			
Partner age-gap	5 years and above	1.00	1.00
	Below 5 year	1.93 (1.09 – 3.41)	**1.75 (1.19 – 2.57)**
	No partner	1.20 (0.10 – 13.70)	0.81 (0.07 – 9.84)
No. sex partners in past 12	None/1 sex partner	1.00	1.00
Months	>1 sex partners	0.45 (0.24 – 0.84)	**0.51 (0.26 – 0.97)**
Living arrangement	Male partner/alone	1.00	1.00
	Other relatives	1.38 (0.43 – 4.46)	0.91 (0.32 – 2.58)
	Parents	1.17 (0.38 – 3.61)	0.77 (0.28 – 2.09)
Structural characteristics			
Household SES	Low	1.00	1.00
	Medium	0.39 (0.18 – 0.86)	0.48 (0.16 – 1.48)
	High	0.28 (0.12 – 0.64)	**0.30 (0.10 – 0.87)**
HIV support group	No	1.00	1.00
	Yes	1.75 (0.96 – 3.18)	1.57 (0.97 – 2.53)
ART use	Not on ART	1.00	1.00
	On ART	4.60 (1.32 – 15.99)	3.44 (0.90 – 13.23)

‡ Variables included in the final model; significant associations

($p<0.05$) highlighted

5.2.3 Descriptive analysis: consistent use of other contraceptive methods and dual-methods

Also, this analysis (Table 5.7) excluded female ALHIV who reported they had not had sexual intercourse during the three months preceding the survey. More than two-thirds (66.7%) of sexually active female ALHIV reported using a contraceptive method other than condoms for their last sexual intercourse, with considerably fewer (46.3%) relying on the contraceptive methods consistently; slightly more than a fifth (21.0%) and fewer than a third (31.7%) reported inconsistent contraceptive method use or 'contraceptive-method non-use', respectively, during the three months preceding survey. About half (49.3%) of female ALWH who were sexually active during the three months preceding the survey relied on dual-methods for their last sexual intercourse, while only 20.6% consistently used dual methods.

Table 5.7 Frequency and distribution of indicators of consistent use of other contraceptive methods and dual-methods

Characteristics	N	%
Contraception use (other than condoms) ǂ		
Other methods use at last sex		
Other methods used	146	66.7
Other methods not used	73	33.3
No response+	0	0.0
	Total 219	100
Other methods use in the past 3-months		
Consistent user	101	46.3
Inconsistent user	46	21.1
Never used	69	31.7

No response+	2	0.9
	Total 218	100
Dual method use‡		
Dual method use at last sex		
Dual method used	108	49.3
Dual method not used	111	50.7
No response+	0	0.0
	Total 219	100
Dual method use in the past 3-months		
Consistent user	45	20.6
Inconsistent user	173	79.4
	Total 218	100

Table 5.8 displays the bivariate data on dual-method use consistency by multiple levels: (1) individual-level factors; (2) relationship-related factors; (3) community factors; and (4) structural factors. Compared to female ALHIV reporting higher levels of perceived partner influence on contraceptives, female ALHIV reporting low perceived partner influence on contraceptive use had a lower percentage of dual-method use consistency (p=0.01). Dual-method use consistency is significantly different across the strata of partner age-gap (p=0.001), with the lowest percentage among female ALHIV in age-disparate partnerships involving an age gap of five or more years higher (13%). Significantly more female ALHIV reporting current use of ART used dual-method contraception consistently compared to those reporting non-current use of ART (p=0.01).

Table 5.8 Background characteristics of study participants by dual-method use consistency

Variable	Category	Consistent dual-method use %(n)	p-value x^2
Individual factors			
Age group	14-17	20.0 (15)	0.87
	18-19	20.9 (30)	
Education	None/<Grade 7	20.0 (2)	0.96
	Grade 7 and above	20.7 (43)	
Alcohol use[ł]	No	22.2 (8)	0.80
	Yes	20.3 (37)	
Cigarette smoking	No	20.7 (36)	0.97
	Yes	20.5 (9)	
Time enrolled in the clinic	<1 year	19.4 (25)	0.74
	1-2 years	20.4 (10)	
	>2 years	25.0 (10)	
Mode of HIV infection	pALHIV	23.0 (14)	0.60
	hALHIV	19.8 (31)	
ART adherence	Not on ART	0.0 (0)	0.01
	Non-adherence	12.1 (8)	
	Adherence	28.7 (37)	
Age at sexual debut	Less than 15 years	14.1 (9)	0.12
	15 years and above	23.4 (36)	
Living children	No children	20.3 (37)	0.80

	One child or more	22.2 (8)	
Self-efficacy to use contraception	Low High	19.3 (16) 21.5 (29)	0.70
Client satisfaction with contraceptive service	Low High	16.3 (16) 24.2 (29)	0.70
Perceived hormonal contraceptive risks specific to HIV-positive populations	Low High	19.4 (19) 21.7 (26)	0.68
Relational factors	5 years and above	12.8 (12)	0.01
Partner age-gap	Below 5 year No partner	26.5 (32) 33.3 (1)	
No. sex partners in past 12 months	None/1 sex partner >1 sex partners	23.7 (35) 14.3 (10)	0.11
Disclosure of HIV-status to partner	Disclosed status Status not disclosed	18.0 (20) 23.4 (25)	0.33
HIV concordance	Sero-discordant Sero-concordant Partner HIV-status Unknown	26.3 (20) 12.8 (5) 19.4 (20)	0.37
Perceived peer influence on contraceptive use	Low High	21.9 (23) 19.5 (22)	0.66

Parent-adolescent communication	Low	22.4 (15)	0.67
	High	19.9 (30)	
Perceived partner influence on contraceptive use	Low	13.3 (14)	0.01
	High	27.2 (31)	
Living arrangement	Male partner/alone	20.0 (3)	0.70
	Other relatives	23.9 (17)	
	Parents	18.9 (25)	
Community factors			
Distance from clinic	0-30 mins	21.8 (39)	0.37
	>30 mins	15.4 (6)	
Perceptions of community acceptance of contraceptive use	Low	20.5 (9)	0.91
	High	20.7 (36)	
HIV-felt stigma	Low	22.7 (22)	0.51
	High	19.0 (23)	
Structural factors			
Household SES$^{\infty}$	Low	22.9 (8)	0.20
	Medium	25.0 (25)	
	High	14.5 (12)	
Parental education	None/primary	23.5 (12)	0.26
	Secondary above	16.9 (21)	
	Unknown	27.9 (12)	

Current membership of HIV support group	No Yes	19.8 (31) 23.0 (14)	0.60
Employment	No Yes	20.9 (43) 16.7 (2)	0.73
Type of clinic attended	Stand-alone youth clinic General primary healthcare clinic	21.1 (23) 20.2 (22)	0.97
Current ART use	No Yes	0.1 (3) 23.1 (45)	0.01
Receipt of contraceptive counselling	No Yes	23.0 (17) 19.4 (28)	0.54

‡Missed taking ART during the past four days

¥During last clinic visit

ᵕHousehold SES (socio-economic status) calculated using principal component analysis

5.2.4 Factors associated with consistent use of dual-methods

Unadjusted odds and adjusted odds of consistency of condom use are presented in Table 5.9. Controlling for all other factors, the only individual-level factor that significantly increased the likelihood of consistent dual-method use include late first sexual intercourse (aOR 1.83 CI 95% [1.10, 3.04]). At the relational level, age-disparate partnerships with age gaps of fewer than five years were significantly associated with dual-method use (aOR 2.41 CI 95% [1.14, 5.11]). Furthermore, higher levels of perceived partner influence on contraceptive use were significantly

associated with dual-method use consistency (aOR 2.69 CI 95% [1.30, 5.52]). None of the community or structural factors was significantly associated with dual method use consistency in both unadjusted and adjusted analyses.

Table 5.9: Multivariate correlates of dual-method use consistency

Variables	Category	cOR (95%CI)	aOR (95%CI) ‡
Individual characteristics			
Age at sexual debut	<15 years	1.00	1.00
	>=15 years	1.86 (0.84 – 4.14)	**1.83 (1.10 – 3.04)**
Relational characteristics			
Partner age-gap	5 years and above	1.00	1.00
	Below 5 year	2.46 (1.19 – 5.09)	**2.41 (1.14 – 5.11)**
	No partner	3.42 (0.29 – 40.63)	3.32 (0.08 - 143.22)
Perceived peer influence on contraceptive use	Low	1.00	1.00
	High	0.86 (0.45 – 1.66)	0.64 (0.39 – 1.04)
Perceived partner influence on contraceptive use	Low	1.00	1.00
	High	2.40 (1.20 – 4.83)	**2.69 (1.30 – 5.52)**

‡ Variables included in the final model; significant associations (p<0.05) highlighted

5.3 Unmet need for contraception

5.3.1 Descriptive analysis

Overall, unmet need for contraception was higher among the sampled female ALHIV when condom use consistency was taken into account compared to when assessed based on the standard DHS definition (23.8%; n=72 vs 10.6%; n=32). Among female ALHIV who were sexually active within the three months preceding the survey (n=219), a total of 17.4% (n=38) had an unmet need for contraception when condom use consistency was taken into account. Table 5.10 displays the bivariate data on unmet needs for contraception when condom consistency was taken into account, by multilevel characteristics: (1) individual-level factors; (2) relationship-related factors; (3) community factors; and (4) structural factors. Unmet need for contraception varied significantly across the duration of enrolment in the clinic, with female ALHIV who had been in HIV care and treatment for more than two years having the lowest frequency of unmet need for contraception (10.5%). Unmet need for contraception was significantly higher among female ALHIV reporting lower satisfaction with contraceptive service compared to those who reported high satisfaction with contraceptive service (p=0.01). Female ALHIV reporting lower peer influence on contraceptive use had a higher unmet need for contraception compared to their peers who reported high peer influence on contraceptive use (p=0.004). Compared to female ALHIV who reported higher partner influence on contraception, unmet need for contraception was significantly higher among female ALHIV who reported low partner influence on contraception (0.001).

Table 5.10: Background characteristics of study participants by an unmet need for contraception

Variable	Category	Unmet needs %(n)	p-value x^2
Individual factors			
Age group	14-17	29.3 (36)	0.06
	18-19	20.0 (36)	
Education	None/<Grade 7	35.3 (6)	0.25
	Grade 7 and above	23.1 (66)	
Alcohol use[ŧ]	No	26.2 (16)	0.61
	Yes	23.1 (56)	
Cigarette smoking	No	22.7 (56)	0.35
	Yes	28.6 (16)	
Time enrolled in the clinic	<1 year	26.6 (45)	0.03
	1-2 years	27.3 (21)	
	>2 years	10.5 (6)	
Mode of HIV infection	pALHIV	22.0 (22)	0.61
	hALHIV	24.6 (50)	
ART adherence	Not on ART	16.0 (4)	0.06
	Non-adherence[ǂ]	32.3 (30)	
	Adherence	20.5 (38)	
Age at sexual debut	Less than 15 years	27.0 (27)	0.35

	15 years and above	22.2 (45)	
Living children	No children	25.3 (65)	0.14
	One child or more	15.2 (7)	
Self-efficacy to use Contraception	Low	27.1 (33)	0.27
	High	21.6 (39)	
Client satisfaction with contraceptive service[¥]	Low	30.1 (46)	0.01
	High	17.3 (26)	
Perceived hormonal contraceptive risks specific to HIV-positive populations	Low	21.7 (28)	0.47
	High	25.3 (44)	
Relational factors			
Partner age-gap	5 years and above	22.4 (24)	0.23
	Below 5 year	23.1 (42)	
	No partner	42.9 (6)	
No. sex partners in past 12 months	None/1 sex partner	24.6 (52)	0.59
	>1 sex partners	21.7 (20)	
Disclosure of HIV-status to partner	Disclosed status	25.0 (41)	0.58
	Status not disclosed	22.3 (31)	
HIV concordance	Sero-discordant	25.0 (23)	0.92
	Sero-concordant	24.5 (13)	

	Partner HIV-status Unknown	22.8 (36)	
Perceived peer influence on contraceptive use	Low	30.9 (46)	0.004
	High	16.9 (26)	
Parent-adolescent Communication	Low	20.5 (18)	0.39
	High	25.1 (54)	
Perceived partner influence on contraceptive use	Low	32.4 (48)	0.001
	High	15.5 (24)	
Living arrangement	Male partner/alone	29.4 (5)	0.85
	Other relatives	23.5 (23)	
	Parents	23.4 (44)	
Community factors			
Distance from clinic	0-30 mins	23.0 (57)	0.50
	>30 mins	27.3 (15)	
Perceptions of community acceptance of contraceptive use	Low	30.3 (33)	0.05
	High	20.1 (39)	
HIV-felt stigma	Low	23.4 (30)	0.91
	High	24.0 (42)	

Structural factors			
Household SES[∞]	Low	13.5 (7)	0.15
	Medium	26.9 (38)	
	High	24.8 (27)	
Parental education	None/primary	30.9 (21)	0.27
	Secondary above	21.0 (37)	
	Unknown	23.7 (14)	
Current membership of HIV support group	No	24.6 (55)	0.60
	Yes	21.7 (18)	
Employment	No	23.7 (68)	0.91
	Yes	25.0 (4)	
Type of clinic attended	Stand-alone youth clinic	22.0 (36)	0.42
	General primary healthcare clinic	25.9 (36)	
Current ART use	No	16.0 (4)	0.34
	Yes	24.5 (68)	
Receipt of contraceptive counselling	No	25.0 (24)	0.73
	Yes	23.2 (48)	

[ŧ]Ever drank alcohol

[‡]Missed taking ART during the past four days

[¥]During last clinic visit

℃Household SES (socio-economic status) calculated using principal component analysis

5.3.2 Factors associated with unmet need for contraception

Table 5.11 displays unadjusted odds of unmet need for contraception when condom consistency was taken into account along with the adjusted odds of unmet needs for contraception by independent variables included in the baseline and final multivariate models. Individual factors associated with unmet need for contraception after adjusting for confounders include: age, with the age group 18 -19 having reduced odds of unmet need than the age group 14 – 17 (aOR 0.55 95% CI [0.32, 0.95]); duration of enrolment in the clinic, with those who had enrolled more than two years in the clinic having reduced odds than those who enrolled in the clinic less than one year (aOR 0.23 95% CI [0.11, 0.48]); adherence to ART, with those who were not adherent to ART having increased odds of unmet need than those who were ART naïve (aOR 3.76 95% CI [1.29, 10.99]). At the relational-level, female ALHIV reporting higher perceived partner influence on contraceptive use had reduced odds of unmet need for contraception compared with those reporting low partner influence on contraceptive use (aOR 0.43 95% CI [0.25, 0.72]). Those who reported not having current sexual partners were significantly more likely to have an unmet need for contraception compared to those with age-disparate partnerships with age gaps more than five years (aOR 2.77 95% CI [1.07, 7.21]). None of the community factors was significantly associated with unmet need for contraception in the adjusted analysis. At the structural-level, female ALHIV who had a parent with at least a secondary education had reduced odds of unmet need for contraception than those who had parents with lower educational status (aOR 0.54 95% CI [0.34, 0.84]).

Table 5.11: Multivariate correlates of unmet need for contraception

Variables	Category	cOR (95%CI)	aOR (95%CI) ‡
Individual characteristics			
Age group	14 – 17	1.00	1.00
	18 - 19	0.60 (0.35 – 1.03)	**0.55 (0.32 – 0.95)**
Time enrolled at clinic	< 1 year	1.00	1.00
	1 – 2 years	1.03 (0.56 – 1.90)	0.75 (0.43 – 1.30)
	Over 2 years	0.32 (0.13 – 0.81)	**0.23 (0.11 – 0.48)**
ART adherence	Not on ART	1.00	1.00
	Non-adherence‡	2.50 (0.79 – 7.93)	**3.76 (1.29 – 10.99)**
	Adherence	1.36 (0.44 – 4.19)	2.18 (0.99 – 4.80)
Client satisfaction with contraceptive service¥	Low	1.00	1.00
	High	0.49 (0.28 – 84)	0.65 (0.32 – 1.31)
Relational characteristics			
Partner age-gap	5 years and above	1.00	1.00
	Below 5 year	1.04 (0.59 – 1.83)	1.16 (0.63 – 2.11)
	No partner	2.59 (0.82 – 8.21)	**2.77 (1.07 – 7.21)**
Perceived peer influence on contraceptive use	Low	1.00	1.00
	High	0.46 (0.26 – 0.79)	**0.53 (0.29 – 0.97)**
Perceived partner influence on contraceptive use	Low	1.00	1.00
	Medium	0.38 (0.22 – 0.67)	**0.43 (0.25 – 0.72)**

Structural characteristics	None/primary	1.00	1.00
Parental education	Secondary above	0.60 (0.32 – 1.12)	**0.54 (0.34 – 0.84)**
	Unknown	0.70 (0.32 – 1.54)	0.75 (0.43 – 1.28)
Type of clinic attended	Stand-alone youth clinic	1.00	1.00
	General primary healthcare clinic	1.24 (0.73 – 2.11)	1.67 (0.93 – 2.98)

‡ Variables included in the final model; significant associations (p<0.05) highlighted

[ǂ]Missed taking ART during the past four days

[¥]During last clinic visit

[ᵒᵒ]Household SES (socio-economic status) calculated using principal component analysis

5.4 Unintended pregnancy

5.4.1 Descriptive analysis

A total of 58 female ALHIV reported ever being pregnant, and 18.8% (n=57) reported ever having an unintended pregnancy since testing HIV positive. Only 0.3% (n=1) of the sample participants reported having a planned pregnancy since testing HIV positive. Of the 57 participants reporting unintended pregnancies, 89.5% said the pregnancies were unwanted or mistimed and failed contraception was responsible for 24.6% of the total unintended pregnancies. Unintended pregnancies vary significantly across some multilevel characteristics (Table 5.12).

Significantly more female ALHIV who smoked cigarettes reported unintended pregnancy compared to those who did not smoke cigarettes (32.1 vs. 15.8, p=0.05). A significantly higher proportion of hALHIV reported unintended pregnancy compared to pALHIV (p<0.001). Unintended pregnancy varies across the strata of ART adherence, with the lowest percentage

among female ALHIV who were not adherent to ART (11.8%). Compared to female ALHIV who had no living children, unintended pregnancy was significantly higher among female ALHIV who had one or more living children (<0.001). The reported rate of unintended pregnancy was higher among female ALHIV who did not disclose their HIV status to a partner compared to those who disclosed their HIV status to a partner (24.5% vs. 14%, p=0.02). The rates of unintended pregnancy vary across the strata of the variable 'HIV concordance', with female ALHIV in sero-concordant relationships having the highest frequency of unintended pregnancy (32.1%). Female ALHIV reporting higher parent-child communication had higher unintended pregnancy compared to their peers reporting low parent-child communication (p=0.03).

Table 5.12: Background characteristics of study participants by unintended pregnancy

Variable	Category	Unintended pregnancy % (n)	p-value x^2
Individual factors			
Age group	14-17	12.2 (15)	0.12
	18-19	23.3 (42)	
Education	None/<Grade 7	23.5 (4)	0.61
	Grade 7 and above	18.5 (53)	
Alcohol use[ł]	No	14.8 (9)	0.36
	Yes	19.8 (48)	
Cigarette smoking	No	15.8 (39)	0.05
	Yes	32.1 (18)	
Time enrolled in the clinic	<1 year	24.3 (41)	0.01
	1-2 years	7.8 (6)	
	>2 years	17.5 (10)	

Mode of HIV infection	pALHIV	7.0 (7)	<0.001
	hALHIV	24.6 (50)	
ART adherence	Not on ART	32.0 (8)	0.05
	Non-adherence‡	11.8 (11)	
	Adherence	20.5 (38)	
Age at sexual debut	Less than 15 years	21.0 (21)	0.49
	15 years and above	17.7 (36)	
Living children	No children	9.3 (24)	<0.001
	One child or more	71.7 (33)	
Self-efficacy to use contraception	Low	18.0 (22)	0.78
	High	19.3 (35)	
Client satisfaction with contraceptive service¥	Low	18.9 (27)	0.39
	High	18.7 (30)	
Perceived hormonal contraceptive risks specific to HIV-positive populations	Low	23.3 (30)	0.43
	High	15.5 (27)	
Relational Characteristics			
Partner age-gap	5 years and above	24.3 (26)	0.19
	Below 5 year	15.9 (29)	
	No partner	14.3 (2)	
No. sex partners in past	None/1 sex partner	19.4 (41)	0.68

12 months	>1 sex partners	17.3 (16)	
Disclosure of HIV-status to partner	Disclosed status Status not disclosed	14.0 (23) 24.5 (34)	0.02
HIV concordance	Sero-discordant Sero-concordant Partner HIV-status unknown	20.7 (19) 32.1 (17) 13.3 (21)	0.01
Perceived peer influence on contraceptive use	Low High	20.1 (30) 17.5 (27)	0.56
Parent-adolescent Communication	Low High	11.4 (10) 21.9 (47)	0.03
Perceived partner influence on contraceptive use	Low High	17.6 (26) 20.0 (31)	0.59
Living arrangement	Male partner/alone Other relatives Parents	41.2 (7) 17.4 (17) 17.6 (33)	0.05
Community Characteristics			
Distance from clinic	0-30 mins >30 mins	20.6 (51) 10.9 (6)	0.10
Perceptions of community acceptance of	Low High	21.1 (23) 17.5 (34)	0.45

contraceptive use			
HIV-felt stigma	Low	23.4 (30)	0.08
	High	15.4 (27)	
Structural Characteristics			
Household SES[∞]	Low	11.5 (6)	0.10
	Medium	16.9 (24)	
	High	24.8 (27)	
Parental education	None/primary	27.9 (19)	0.08
	Secondary above	15.3 (27)	
	Unknown	18.6 (11)	
Current membership of HIV support group	No	19.6 (43)	0.60
	Yes	16.9 (14)	
Employment	No	18.1 (52)	0.19
	Yes	31.3 (5)	
Type of clinic attended	Stand-alone youth clinic	15.2 (25)	0.08
	General primary healthcare clinic	23.0 (32)	
Current ART use	No	32.0 (8)	0.20
	Yes	17.6 (49)	
Receipt of contraceptive counselling	No	28.0 (38)	0.41
	Yes	18.0 (19)	

[ŧ]Ever drank alcohol

[‡]Missed taking ART during the past four days

[¥]During last clinic visit

[ᵒᵒ]Household SES (socio-economic status) calculated using principal component analysis

5.4.2 Factors associated with unintended pregnancy

Table 5.13 displays the odds of unintended pregnancy by the background characteristics included in the unadjusted and adjusted models. Of the individual-level factors, cigarette smoking (aOR 4.24 CI 95% [2.03 – 8.87]) and having one or more living child (aOR 31.21 CI 95% [12.18 – 80.02]) were significantly associated with increased likelihoods of unintended pregnancy after the final multivariable adjustment. Furthermore, enrolment in HIV care for 1-2 years at the current clinics (aOR 0.18 CI 95% [0.07 – 0.45]) was associated with reduced likelihoods of unintended pregnancy.

At the relational level, being unaware of a partner's HIV status (aOR 0.41 CI 95% [0.25 – 0.69]) and higher levels of perceived parent-child communication about contraception (aOR 2.76 CI 95% [1.16 – 6.58]) were associated with unintended pregnancies in the final multivariate model. At the structural level, belonging to households in the high wealth index tertile (aOR 3.70 CI 95% [1.27, 10.77]) and receipt of contraceptive counselling (aOR 2.92 CI 95% [1.29, 6.63]) were significantly associated with higher odds of unintended pregnancy.

Table 5.13: Multivariate correlates of unintended pregnancy

Variables	Category	cOR (95%CI)	aOR (95%CI)‡
Individual characteristics			
Cigarette smoking	No	1.00	1.00
	Yes	2.53 (1.31 – 4.87)	**4.24 (2.03 – 8.87)**
Time enrolled at the clinic	< 1 year	1.00	1.00
	1 – 2 years	0.26 (0.11 – 0.65)	**0.18 (0.07 – 0.45)**
	Over 2 years	0.66 (0.31 – 1.43)	0.56 (0.20 – 1.60)
No. of living children	No children	1.00	1.00
	1 or above	24 (11.44 – 53.07)	**31.21 (12.18 – 80.02)**
Relational characteristics			
HIV concordance	Sero-discordant	1.00	1.00
	Sero-concordant	1.81 (0.84 – 3.90)	0.90 (0.16 -5.04)
	Partner HIV-status unknown	0.59 (0.30 – 1.17)	**0.41 (0.25 – 0.69)**
Parent-adolescent communication	Low	1.00	1.00
	High	2.18 (1.05 – 4.54)	**2.76 (1.16 – 6.58)**
Living arrangement	Other relatives	1.00	1.00
	Parents	0.30 (0.10 – 0.90)	2.15 (0.29 – 15.94)
	Male partner/alone	0.30 (0.11 – 0.86)	1.41 (0.21 – 9.37)
Community characteristics			
Perceptions of community acceptance of contraceptive use	Low	1.00	1.00
	High	0.80 (0.44 – 1.43)	0.54 (0.26 – 1.16)

HIV-Felt stigma	Low	1.00	1.00
	High	0.60 (0.33 – 1.06)	0.56 (0.27 – 1.15)
Structural characteristics of			
Household SES	Low	1.00	1.00
	Medium	1.56 (0.60 – 4.06)	3.01 (0.95 – 9.61)
	High	2.52 (0.97 – 6.56)	**3.70 (1.27 – 10.77)**
Receipt of contraceptive counselling	No	1.00	1.00
	Yes	1.54 (0.80 – 2.97)	**2.92 (1.29 – 6.63)**

‡ Variables included in the final model; significant associations ($p<0.05$) highlighted

6. The relationship between mode of HIV acquisition, contraceptive service uptake and service delivery

This chapter evaluates the independent association between mode of HIV acquisition and the measures of access to and use of contraceptive services, and service delivery preferences among female ALHIV after testing positive for HIV. Here, the focus is on the differences in access to contraceptive services, current contraceptive use, unmet needs for contraception, and unintended pregnancies between two distinct groups of female ALHIV, hALHIV and pALHIV, after adjusting for potential confounders. Also, results are presented on how the measures of service delivery preferences, including provider age, gender, and continuity as well as access site, vary depending on the mode of HIV acquisition after adjusting for potential confounders. For each measure of contraceptive utilisation and service delivery preferences, the descriptive statistics are described first, followed by multivariable regression results.

6.1 Participant characteristics across hALHIV and pALHIV groups

In total, 303 sampled participants were included in the analysis. Based on participants' reports, HIV-infection was acquired through horizontal and perinatal/postnatal transmission routes in 203 (67%) and 100 (33%) female ALHIV, respectively (see Table 5.2). Of the female hALHIV, 72.4% reported that they contracted HIV via sexual intercourse, 5.9% via rape, 2.5% via caring for an HIV-infected family member, and 19.2% via an unknown behavioural route.

Table 6.1 displays the selected characteristics (i.e., considered potential confounding variables) of the participants, by the reported mode of HIV acquisition. Female hALHIV were more likely to be older, consume alcohol, smoke cigarettes, adherent to ART, have one or more child, and living with a male partner or alone, but were less likely to enrol in HIV care for less than one year, engage in late first sexual intercourse, have partner age-gaps fewer than five years, disclose HIV status to a partner, be in serodiscordant relationships, higher perceived HIV-felt stigma, current

attendees of HIV support group and enrol in general PHC clinics providing HIV services than female pALHIV.

Table 6.1: Demographic characteristics of study participants, by mode of HIV acquisition

Variable	Category	N	Mode of HIV-acquisition		p-value*
			hALHIV %(n)	pALHIV %(n)	
Individual characteristics					
Age group	14-17	123	34.0(69)	54.0 (54)	0.01
	18-19	180	66.0 (134)	46.0 (46)	
Education	None/<Grade 7	17	4.9 (10)	7.0 (7)	0.46
	Grade 7 and above	286	95.1 (193)	93.0 (93)	
Alcohol use[ǂ]	Yes	242	85.2 (173)	69.0 (69)	0.001
Cigarette smoking	Yes	56	22.7 (46)	10.0 (10)	0.008
Time enrolled at the clinic	<1 year	169	71.9 (146)	23.0 (23)	<0.001
	1-2years	77	14.3 (29)	48.0 (48)	
	>2 years	57	13.8 (28)	29.0 (29)	
ART adherence	Not on ART	25	11.8 (24)	(1)	<0.001
	Non-adherence[‡]	93	25.1 (51)	42.0 (42)	
	Adherence	185	63.0 (128)	57.0 (57)	

Age at sexual debut	Less than 15 years	100	37.0(75)	57.0 (57)	0.04
	15 years and above	203	63.0(128)	25.0 (25)	
Living children	No children	257	97.0 (97)	97.0 (97)	<0.001
	One child or more	46	3.0 (3)	3.0 (3)	
Self-efficacy to use contraception	Low	122	40.9 (83)	39.0 (39)	0.75
	High	181	59.1 (120)	61.0 (61)	
Client satisfaction with contraceptive service[¥]	Low	143	45.3 (92)	51.0 (51)	0.35
	High	160	54.7 (111)	49.0 (49)	
Partner age-gap	5 years and above	107	46.8 (95)	12.0 (12)	<0.001
	Below 5 years	182	50.7 (103)	79.0 (79)	
	No partner	14	2.5 (5)	9.0 (9)	
No. sex partners in past 12 months	None/1 sex partner	211	66.0 (134)	77.0 (77)	0.05
	>1 sex partners	92	34.0 (69)	23.0 (23)	
Disclosure of HIV-status to partner	Disclosed status	164	47.8 (97)	67.0 (67)	0.002
	Status not disclosed	139	52.2 (106)	33.0 (33)	
HIV concordance	Sero-discordant	92	27.1 (55)	37.0 (37)	<0.001
	Sero-concordant	53	23.7 (48)	5.0 (5)	
	Partner HIV status unknown	153	49.2 (100)	58.0 (58)	

Living arrangement	Male partner/alone	17	8.4 (17)	0.0 (0)	0.001
	Other relatives	98	27.6 (56)	42.0 (42)	
	Parents	188	64.0 (130)	58.0 (58)	
Distance from clinic	0-30 mins	248	84.2 (171)	77.0 (77)	0.12
	>30 mins	55	15.8 (32)	23.0 (23)	
Felt-stigma	Low	128	46.8 (95)	33.0 (33)	0.02
	High	175	53.2 (108)	67.0 (67)	
Household SES	Low	52	13.8 (28)	24.0 (24)	0.09
	Medium	142	48.8 (99)	43.0 (43)	
	High	109	37.4 (76)	33.0 (33)	
Parental education	None/primary	68	23.7 (48)	20.0 (20)	0.77
	Secondary above	176	57.1 (116)	60.0 (60)	
	unknown	59	19.2 (39)	20.0 (20)	
Current membership of HIV support group	Yes	83	19.7 (40)	43.0 (43)	<0.001
Type of clinic attended	Stand-alone youth clinic	164	45.3 (92)	72.0 (72)	<0.001
	General primary healthcare clinic	139	54.7 (111)	28.0 (28)	
Employment	Yes	16	5.9 (12)	4.0 (4)	0.48

Receipt of contraception Counselling	Yes	207	64.5 (131)	76.0 (76)	0.04

[ŧ]Ever drank alcohol

[‡]Missed taking ART during the past four days

[¥]During last clinic visit

[ᵒᵒ]Household SES (socio-economic status) calculated using principal component analysis

*significance at p<0.05

6.2 Mode of HIV acquisition and receipt of contraceptive Services

6.2.1 Descriptive statistics

Table 6.2 displays data on the receipt of contraceptive services, including contraceptive counselling, condom provision, and dual-method provision, by mode of HIV acquisition. Significantly higher receipt rates of contraceptive counselling and condom were noted among female pALHIV compared to their hALHIV counterparts (76.0% vs 64.5%, *p*=0.04). In contrast, a relatively higher percentage of female hALHIV received dual-method provision (36.9% vs 31.3%, *p*=0.34, but this was not significant.

Table 6.2: Frequency and proportion of participants reporting receipt of contraceptive counselling and products

Variable	Category	All female ALHIV % (N)	Mode of HIV acquisition		P-value (x^2)
			hALHIV % (n)	pALHIV % (n)	
Ever received contraception counselling[a]	Yes	68.3 (207)	64.5 (131)	76.0 (76)	0.04
Ever received condoms[a]	Yes	68.3 (207)	64.5 (131)	76.0 (76)	0.04
Ever received dual-method[a]	Yes	35 (100)	36.9 (73)	31.3 (31)	0.34

[a]From a public health service

6.2.2 Association between mode of HIV acquisition and receipt of contraceptive services

Table 6.3 shows the results of the crude and adjusted analysis of the association between the mode of HIV acquisition and the receipt of the following contraceptive services: contraception counselling, condom, and dual-method contraception. The unadjusted analysis revealed that female pALHIV had a 74% significant increase in the odds of receiving contraception counselling (cOR 1.74 95% CI [1.01, 2.99]). In the Mantel-Haenszel stratified analysis of the association between the mode of HIV acquisition and the receipt of contraception counselling, there was no evidence of effect modification across the potential confounders. Adjusting for the potential confounders, there was no evidence of an association between the mode of HIV acquisition and the receipt of contraception counselling (aOR 0.90 95% CI [0.59, 1.38]).

The association between the mode of HIV acquisition and the receipt of condoms after testing positive for HIV is shown in Table 6.3. In the crude analysis, there was evidence of an association between mode of HIV acquisition and the receipt of condoms, with female pALHIV having lower odds of the receipt of condoms compared to their hALHIV (cOR 0.52 95% CI [0.31, 0.87]). The Mantel-Haenszel stratified analysis revealed evidence of effect modification by participants' age status or receipt of contraception counselling. In the final multivariate analysis, adjusting for confounding and effect modification, there was no evidence for an association between mode of HIV acquisition and the receipt of condoms (aOR 0.14 95% CI [0.01, 1.80]). However, the effect of 'mode of HIV acquisition' on the receipt of condoms differed by age status or receipt of contraception counselling (interaction $p<0.05$); with higher odds of receipt of condoms among older ALHIV and those reporting receipt of contraception counselling compared to young ALHIV and those who did not report receipt of contraception counselling, respectively. Results from the Wald test conducted on the final multivariate model demonstrated statistical evidence for interaction and was thus considered appropriate to include interaction terms in the final model.

Turning to receipt of dual-method contraception (Table 6.3), there were no significant differences in the receipt of dual-method contraception across hALHIV and pALHIV in the crude

analysis (cOR 0.78 95% CI [0.48, 1.31]). The Mantel-Haenszel test for the homogeneity of the odds revealed that the effect of the mode of HIV acquisition on the receipt of dual-method contraception was modified by the age status or access to HIV support groups (p<0.05). In the final multivariate model including potential confounders and interaction terms, pALHIV had non-significant lower odds of receiving dual-method contraception compared to hALHIV (aOR 0.02 95% CI [0.00, 0.38]). The Wald statistic showed evidence of an interaction. Additionally, the effect of mode of HIV-acquisition differed by participants' age status or access to a youth support group (p<0.05).

Table 6.3: Crude and adjusted association between mode of HIV acquisition and receipt of contraceptive services

Mode of HIV acquisition	**% (n)**	**cOR (95% CI)**	**aOR (95% CI)***	**aOR (95% CI)****
Ever received Contraception counselling[b]				
hALHIV	64.5 (131)	1.00	1.00	
pALHIV	76.0 (76)	**1.74 (1.01 – 2.99)**	0.90 (0.59 – 1.38)[1]	
Ever received condoms[b]				
hALHIV	75.9 (154)	1.00	1.00	1.00
pALHIV	62.0 (62)	0.52 (0.31 – 0.87)	0.32 (0.14 – 0.78)[2]	0.14 (0.01 – 1.80)[2]
Ever received dual-method[b]				
hALHIV	36.9 (73)	1.00	1.00	1.00
pALHIV	31.3 (31)	0.78 (0.48 – 1.31)	0.59 (0.24 – 1.47)[3]	0.02 (0.00 – 0.38)[3]

*Adjusted model without interaction

**Adjusted model with an interaction term(s)

[1]Adjusted for individual factors (duration of enrolment in HIV care, Art adherence, client satisfaction score), relational factor (partner age-gap) and structural factors (household wealth status, access to HIV support group, clinic model).

[2]Adjusted for individual factors (age, cigarette smoking, duration of enrolment in HIV care, ART adherence, sexual debut, client satisfaction score), relational factors (partner age-gap, HIV concordance) and structural factors (access to HIV support group, receipt of contraception counselling)

[3]Adjusted for individual factors (age, education, alcohol consumption, duration of enrolment in HIV care, sexual debut, living child, client satisfaction score), relational factors (partner age-gap, number of sex partners, HIV concordance, living arrangement), community factors (perception of community acceptance of contraception, HIV felt-stigma) and structural factors (parental education, access to HIV support group, employment status, clinic model, receipt of contraception counselling)

Significant variables at $p<0.05$ highlighted

[a]Include condoms as well as other forms of contraception

[b]From public health service

6.3 Mode of HIV acquisition and contraceptive usage

6.3.1 Descriptive statistics

Table 6.4 shows the results of the indicators of contraceptive usage by the mode of HIV acquisition. The percentage of current contraceptive users was higher among female pALHIV

compared to their hALHIV counterparts (87.0 % vs. 81.8%, *p*=0.27). Among both distinct groups of female ALHIV, the majority of current contraceptive users reported using injectable contraceptives, followed by condoms alone, then implants, IUDs and hormonal pills. When injectable method mix is considered, a higher proportion of both distinct groups of female ALHIV reported NET-EN injectable contraception. Current contraceptive method mix did not vary across mode of HIV acquisition, except dual method use (p=0.007). Regarding the unmet need for contraception after accounting for condom use consistency, 24.6% of female hALHIV had unmet need, compared to 22% of pALHIV counterparts (p=0.61). A relatively higher percentage of female hALHIV reported experiencing unintended pregnancies after testing positive for HIV (24.6% vs. 7.0%, *p*<0.001). The percentages of female ALHIV reporting experience of mistimed (86.4% vs. 13.6%, *p*=0.52) or unwanted pregnancy (82.9% vs. 17.1%, *p*=0.14) were greater among female hALHIV compared to female pALHIV.

Table 6.4: Current contraceptive use, by mode of HIV acquisition

Characteristics	**All female ALHIV % (N)**	**Mode of HIV acquisition**		**P-value (x^2)**
		hALHIV % (n)	**pALHIV % (n)**	
Current use (all modern methods) (N=253)				
Yes	83.5 (253)	81.8 (166)	87.0 (87)	0.27
Current use by primary method type[ł] (N=253)				
Condoms (only)	27.7 (70)	25.3 (42)	32.2 (28)	0.24
Injectable	60.5 (153)	62.1 (103)	57.6 (50)	0.49
NET-EN	57.7 (75)[*]	54.4 (49)[*]	65.0 (26)[*]	0.26
DMPA	42.3 (55)[*]	45.6 (41)[*]	35.0 (14)[*]	

*Not known***	(23)	(13)	(10)	0.90
Implants	5.9 (15)	6.0 (10)	5.6 (5)	0.57
IUD	3.2 (8)	3.6 (6)	2.3 (2)	0.75
Pills	2.7 (7)	3.0 (5)	2.3 (2)	
Dual-method use (N=123)				
Yes	48.6(123)ǂ	62.6 (77)	37.4 (45)	0.007
Method mix among current dual-method users (N=123)				
Injectable	79.7 (98)	79.3 (62)	80.0 (36)	0.93
NET-EN	60.5 (52) *	57.1 (32) *	66.7 (20) *	0.39
DMPA	39.5 (34) *	42.9 (24) *	33.3 (10) *	
*Not known***	(12)	(6)	(6)	
Implants	8.8 (11)	7.7 (6)	11.2 (5)	0.51
IUD	5.7 (7)	6.5 (5)	4.4 (2)	0.63
Pills	5.7 (7)	6.5 (5)	4.4 (2)	0.63
Unmet need for contraception				
Yes	23.8 (72)	24.6 (50)	22.0 (22)	0.61
Unintended pregnancy since testing positive				
Yes	18.8 (50	24.6 (50)	7.0 (7)	<0.001

*Percentage of injectable method mix, exclude those who reported not knowing their particular injectable methods

[**]Injectable method used not known

[ŧ]Percentage of method mix, excluding non-current contraceptive users

6.3.2 Association between mode of HIV acquisition and contraceptive usage

Crudely, the odds of current contraceptive use were significantly higher in female pALHIV compared to female hALHIV (cOR 1.49 95% CI [0.75, 2.95]; Table 6.5). Although there was evidence of effect modification by participants' age status, alcohol consumption or household wealth status (p<0.05), the inclusion of the interaction terms in the final regression model would violate the EPV criterion guiding the statistical analysis in this thesis. Therefore, I considered it appropriate to exclude the interaction terms from the final regression model. The odds of current contraceptive use were not significantly higher in female pALHIV compared to their hALHIV counterparts (aOR 1.23, 95% CI [0.52, 2.92]); Table 6.5), adjusting for potential confounders.

Unadjusted models indicate that female pALHIV had lower odds of unmet need for contraception (cOR 0.93 95% CI [0.57, 1.51]) and unintended pregnancies (cOR 0.23 95% CI [0.10, 0.53]) compared to their hALHIV counterparts (Table 6.5). The stratified analysis revealed that household wealth status modified the effect of the mode of HIV acquisition on unmet needs for contraception, with the wealthiest households having lowest odds of unmet needs (p<0.05), but there was no evidence of effect modification of the relationship between unintended pregnancy and mode of HIV acquisition. Mode of HIV acquisition was not associated with unmet needs for contraception, after adjusting for potential confounders and the interaction term (aOR 2.83 95% CI [0.26, 30.65]); Table 6.5). Wald test assessing the significance of the interaction between the mode of HIV acquisition and household wealth status indicated statistical evidence for interaction (p<0.05). Thus, the final multivariate model including the interaction term was considered appropriate. For unintended pregnancy, female pALHIV had statistically significant slightly higher odds of unintended pregnancies compared to female hALHIV (aOR 1.02 95% CI [0.39, 2.67]; Table 6.5), after adjusting for potential confounders.

Table 6.5: Crude and adjusted association between mode of HIV acquisition and contraceptive usage

Mode of HIV acquisition	% (n)	cOR (95% CI)	aOR (95% CI)*	aOR (95% CI)**
Current contraceptive use[a]				-
hALHIV	81.8 (166)	1.00	1.00	
pALHIV	87.0 (87)	1.49 (0.75 – 2.95)	1.23 (0.52 – 2.92)[1]	
Unmet need for contraception				
hALHIV	24.6 (50)	1.00	1.00	1.00
pALHIV	22.0 (22)	0.86 (0.49 – 1.53)	0.60 (0.28 – 1.26)[2]	2.83(0.26–30.65)[2]
Unintended pregnancy				-
hALHIV	24.6 (50)	1.00	1.00	
pALHIV	7.0 (7)	**0.23 (0.10 – 0.53)**	**1.02 (0.39 – 2.67)**[3]	

*Adjusted model without interaction

**Adjusted model with an interaction term(s)

[1]Adjusted for individual factors (age, alcohol consumption, cigarette smoking, sexual debut), relational factor (partner age-gap) and structural factors (household wealth status, receipt of contraceptive counselling)

[2]Adjusted for individual factors (age, duration of enrolment in HIV care, Adherence to ART, living child/children, client satisfaction with contraceptive service, sexual debut, living child/children, client satisfaction with contraceptive service), relational factors (partner age-gap), and structural factors (household wealth status)

[3]Adjusted for individual factors (age, education, cigarette smoking, duration of enrolment in HIV care, ART adherence, living child/children), relational factors (partner age-gap, disclosure of HIV status to partner), community factors (HIV felt-stigma) and structural factors (clinic model)

Significant variables at p<0.05 highlighted

[a]Include condoms as well as other forms of contraception

6.4 Mode of HIV acquisition and service delivery preferences

6.4.1 Descriptive statistics

Horizontally HIV infected female adolescents, compared to female pALHIV, displayed relatively higher percentages of participants reporting preferences for clinician continuity (69.8% vs. 30.2%, p=0.11), female providers (63.5% vs. 33.5%, *p*=0.10) and stand-alone youth clinics (69.8% vs. 30.2%, *p*=0.48) across visits for contraceptive services, respectively. In terms of preferences for access sites, rates were similar between hALHIV and pALHIV (50.8% vs 48.2%, *p*=0.02).

6.4.2 Association between mode of HIV acquisition and service delivery preferences

Table 6.6 displays the unadjusted and adjusted odds of the associations between the mode of HIV acquisition and the measures of female ALHIV service delivery preferences. The Mantel-Haenszel stratified analysis of the association between the mode of HIV acquisition and the female ALHIV preference for clinician continuity across contraceptive service visits by potential effect modifiers revealed no significant effect modification. Results from the crude analysis showed that there was no evidence for an association between mode of HIV acquisition and preference for clinician continuity at contraceptive service visits (cOR 0.66 95% CI [0.39, 1.10]). After adjusting for potential confounders, female pALHIV showed a lower likelihood to consider clinician continuity at contraceptive service visits important, but this finding was not statistically significant (aOR 0.89 95% CI [0.52, 1.54]).

Crudely, mode of HIV acquisition was not associated with preference for female providers among female ALHIV (cOR 1.54 95% CI [0.93, 2.56]). In the Mantel-Haenszel stratified analysis, there was significant evidence that the association of the mode of HIV acquisition with the female ALHIV preference for female providers differed depending on the travel times from their homes to the clinic (p<0.05). Results from the final multivariate model including potential confounders and the interaction term showed that female pALHIV had a significant increased likelihood to prefer a female provider for contraceptive services after (aOR 5.11 95% CI [1.25 – 20.91]). The interaction between the mode of HIV acquisition and the travel times from home to the clinic was significant in the final regression model (p<0.05). Wald test assessing the significance of the interaction term indicated statistical evidence for interaction (p<0.05).

In the unadjusted analysis, female pALHIV had a significantly increased likelihood to report preferences for youth contraceptive service providers between 15 – 24 years of age compared to female hALHIV (cOR 2.40 95% CI [1.36, 4.24]). This association was stronger after adjusting for potential confounders (aOR 4.45 95% CI [2.84, 6.97]). The final regression model did not include an interaction term as no variables were identified as potential effect modifiers in the bivariate analysis.

In the unadjusted analysis, female ALHIV preferences for stand-alone youth facilities for contraceptive services did not significantly differ between hALHIV and pALHIV (cOR 0.84 95% CI 0.52, 1.38). There was evidence of effect modification by clinic model or household wealth status ($p<0.05$). Perinatally/postnatally HIV infected female adolescents had significantly increased odds to report preferences for stand-alone youth facilities compared to female hALHIV (aOR 7.01 95% CI [2.39, 20.55]), after adjusting for potential confounders and the interaction terms. The interaction between the mode of HIV acquisition and clinic model or household wealth status were significant in the final multivariate model ($p<0.05$), and Wald test demonstrated statistical evidence for interaction ($p<0.05$).

Table 6.6: Crude and adjusted association between mode of HIV acquisition and service delivery preferences

Service delivery preferences	**% (n)**	**cOR (95% CI)**	**aOR (95% CI)***	**aOR (95% CI)****
Clinician continuity				
hALHIV	73.9 (150)	1.00	1.00	-
pALHIV	65.0 (65)	0.66 (0.39 – 1.10)	0.89 (0.52 – 1.54)[1]	
Female provider				
hALHIV	59.1 (120)	1.00	1.00	1.00
pALHIV	69.0 (69)	1.54 (0.93 – 2.56)	1.07(0.53 – 2.18)[2]	**5.11(1.25– 20.91)**[2]
Provider age<25 yrs				-
hALHIV	15.8 (32)	1.00	1.00	
pALHIV	31.0 (31)	**2.40 (1.26 – 14.24)**	**4.45 (2.84 – 6.97)**[3]	

Standalone youth clinics				
hALHIV	40.4 (55)	1.00	1.00	1.00
pALHIV	59.6 (31)	0.84 (0.52 – 1.38)	1.09 (0.47 – 2.54)[4]	**7.01 (2.39 – 20.55)**[4]

*Adjusted model without interaction

**Adjusted model with an interaction term(s)

[1]Adjusted for individual factors (alcohol consumption, duration of enrolment in HIV care, ART adherence), relational factor (partner age-gap, number of sex partners, disclosure of HIV status to partner, HIV concordance) and structural factors (household wealth status)

[2]Adjusted for individual factors (age, duration of enrolment in HIV care, ART adherence, living child/children), relational factors (partner age-gap, number of sex partners, disclosure of HIV status to partner, HIV concordance, living arrangement), community factors (distance from the clinic, perceptions of community acceptance of contraception) and structural factors (household wealth status, clinic model)

[3]Adjusted for individual factors (duration of enrolment in HIV care, living child/children), relational factors (partner age-gap, disclosure of HIV status to partner, HIV concordance), community factors (distance from the clinic, perception of community acceptance of contraception)

[4]Adjusted for individual factors (age, duration of enrolment in HIV care, sexual debut, living child/children), relational factors (HIV concordance), community factors (distance from the clinic) and structural factors (household wealth status, access to HIV support group, clinic model, access to ART medications, receipt of contraceptive counselling)

Significant variables at $p<0.05$ highlighted

7. Hormonal contraceptive-related safety considerations and contraceptive use among female ALHIV

This chapter focuses on the independent relationship between perceived hormonal contraceptive-related safety considerations specific to HIV-positive populations and the current contraceptive method use among female ALHIV. First, the selected background characteristics of the study participants by the current contraceptive method use are presented. Thereafter, the perception of female ALHIV of hormonal contraceptive-related safety considerations in HIV-positive populations is described. Finally, the associations between perceived hormonal contraceptive-related safety considerations and the current contraceptive method use are presented.

7.1 Participant characteristics by contraceptive use

The descriptive statistics of the study sample by contraceptive method use are summarised across the potential confounders of the relationship between perceived hormonal contraceptive-related safety considerations and the current contraceptive method use (Table 7.1). This analysis included all the 303 female ALHIV included in the final quantitative analysis of this thesis (see Chapter 4). As emphasised in Chapter 4, 16.5% of female ALHIV reported not currently using any method of contraception. Approximately three-fifths (57.8%, n=175) of female ALHIV reported current use of any hormonal method of contraception – injectable contraception (50.5%, n=153) was the most commonly reported hormonal method, followed by implants (5%, n=8) and oral pills (2.3%, n=7), and the remaining 25.7% (condoms alone [23.1%, n=70] and IUD alone [2.6%, n=8]) reported current use of barrier contraception (condoms or IUD) alone. The mean age of female ALHIV was comparable across contraceptive method use (p=0.67). Contraceptive use varied significantly by participant age status, age at sexual debut, perceived peer influence on contraceptive use, perceived partner influence on contraceptive use, perceptions of community acceptance of contraception, and wealth category (P<0.05).

7.1 Demographic characteristics of study participants, by current contraceptive method use.

Variable	Category	Total % (N)	Non-use n(%)	Barrier method use n(%)	Hormonal method use n(%)	p-value
Age group	14-17	40.6(123)	26(52.0)	48.7(38)	33.7(59)	0.02
	18-19	59.4(180)	24(48.0)	51.3(40)	66.3(116)	
	Mean age (SD)	17.5 (1.5)	17.2(1.5)	17.3(1.5)	17.8(1.4)	0.53
Education	None/<Grade 7	5.6(17)	12.0(6)	6.4(5)	3.4(6)	0.06
	Grade 7 and above	94.4(286)	88.0(44)	93.6(73)	96.6(169)	
Age at sexual debut	Less than 15 years	33.0(100)	50.0(25)	33.3(26)	28.0(49)	0.01
	15 years and above	67.0(203)	50.0(25)	67.3(52)	72.0(126)	
Perceived peer influence on contraceptive use	Low	49.2(149)	58.0(29)	59.0(46)	42.3(74)	0.02
	High	50.8(154)	42.0(21)	41.0(32)	57.7(101)	

Perceived partner influence on contraceptive use	Low	48.8(148)	70.0(35)	61.5(48)	37.1(65)	<0.001
	High	51.2(155)	30.0(15)	38.5(30)	62.8(110)	
Perceptions of community acceptance of contraception	Low	36.0(109)	30.0(15)	47.4(37)	32.6(57)	0.047
	High	64.0(194)	70.0(35)	52.6(41)	67.4(118)	
Parental education	None/primary	22.4(68)	30.0(15)	22.8(17)	20.6(36)	0.11
	Secondary above	58.1(176)	42.0(21)	59.0(46)	62.3(109)	
	unknown	19.5(59)	28.0(14)	19.2(15)	17.1(30)	
Household SES	Low	17.2(52)	6.0(3)	20.5(16)	18.9(33)	0.04
	Medium	46.9(142)	54.0(27)	35.9(28)	49.7(87)	
	High	35.9(109)	40.0(20)	43.6(34)	31.4(55)	

7.2 Perception of hormonal contraceptive-related safety considerations

The aggregate mean perceived hormonal contraceptive-related safety considerations' scores were slightly higher among female ALHIV reporting current use of barrier contraception (2.73, SD 0.81) or non-current use of any modern contraception (2.66, SD 0.82) than female ALHIV reporting current use of hormonal contraception (2.53 SD 0.79). Data not shown. The aggregate mean scores were not significantly different between the three groups of contraceptive method use (p=0.92).

Table 7.2 displays the responses of female ALHIV to a series of statements regarding hormonal contraceptive-related safety considerations specific to HIV-positive populations. The majority of respondents disagreed or strongly disagreed with the series of statements regarding the hormonal contraceptive related safety issues in HIV positive populations. Interestingly, the minority of respondents strongly perceived that hormonal contraceptive use would accentuate HIV-disease progression (4.9%) or reduce the efficacy of antiretroviral medications (8.3%). Appreciable proportion (19.5%) of respondents strongly believed that hormonal contraceptive use would increase the risk of heterosexual transmission of HIV, and a similar proportion (21.4%) strongly perceived that hormonal contraceptive failures would increase in women living with HIV using antiretroviral medications.

Table 7.2: Perception of female ALWH on hormonal contraceptive-related safety considerations in HIV-positive populations

Specified statement preceded by: "In your case:"	Agreement				
	Strongly agree %	Agree %	Intermediate %	Disagree %	Strongly disagree %
Using hormonal contraceptive could make HIV disease progression to occur quickly?	4.9	11.6	16.5	39.3	27.7
Hormonal contraceptive use could make passing HIV to an uninfected male sexual partner to be more able?	19.5	19.8	11.9	27.7	21.1
The ability of HIV treatments/medications to fight HIV /AIDS could be reduced with concurrent use of hormonal contraceptive?	8.3	12.9	16.2	32.3	30.3
Birth control failure (i.e a possibility of getting pregnant) could be more if hormonal	21.4	17.2	12.9	27.1	21.4

contraceptive is used concurrently with HIV medications because of the possible alterations in its ability to prevent pregnancy by HIV medications?					

7.3 Associations between perceived hormonal contraceptive-related safety considerations and contraceptive uptake

Table 7.3 displays the unadjusted and adjusted results of the multinomial regression analysis of the association between contraceptive method use and hormonal contraceptive safety considerations specific to HIV-positive populations among female ALHIV. In the unadjusted analysis, the relative risk of non-use of contraception versus current use of hormonal contraception was higher in female ALHIV with higher perceived hormonal contraceptive-related safety scores, but not statistically significant (cRR 1.22 95% CI [0.65, 2.30]). The likelihood of the current use of barrier contraception versus current use of hormonal contraception was significantly higher for female ALHIV with higher perceived hormonal contraceptive-related safety scores (cRR 1.76, 95% CI [1.01, 3.08]).

In the adjusted analysis, the relative risk of non-use of contraception versus current use of hormonal contraception remained non-significantly higher for female ALHIV with higher perceived hormonal contraceptive-related safety scores relative to those with low scores (aRR 1.13 95% CI [0.63, 2.05]). Likewise, the adjusted relative risk of the current use of barrier contraception versus current use of hormonal contraception was non-significantly higher for female ALHIV with higher perceived hormonal contraceptive-related safety scores relative to

those with low scores (aRR 1.69 95% CI [0.97, 2.96]). The final regression model did not include interactions because the joint test for the null that all 'perceived safety considerations and education status interactions' were zero (p>0.05).

Table 7.3: Multinomial logistic regression models of current contraceptive method use, unadjusted and adjusted relative risk ratios.

Variable	Category	Non-use vs. Hormonal method use		Barrier method use vs. Hormonal method use	
		cOR (95% CI)	*aOR (95% CI)	cOR (95% CI)	*aOR (95% CI)
Perceived hormonal contraceptive-safety	Low	1.00	1.00	1.00	1.00
	High	1.22 (0.65 – 2.30)	1.1(0.63 - 2.05)	**1.76 (1.01 – 3.08)**	1.69 (0.97 – 2.96)

*Adjusted model without interaction: adjusted for individual factors (age, education, sexual debut), relational factor (peer influence on contraceptive use, partner influence on contraceptive use), community factor (perceptions of community acceptance of contraception) and structural factors (household wealth status, parental education)

8. Contraceptive service quality, uptake, and models of HIV care

This chapter evaluates the independent relationship between the measures of contraceptive uptake, service quality perceptions, satisfaction and clinic model. First, the characteristics of the participants according to the models of HIV care, including standalone youth- and general PHC - clinics providing HIV services, are described. Then the results pertaining to variation in contraception use, unmet needs for contraception, unintended pregnancies, receipt of contraceptive services and client satisfaction by the aforementioned distinct models of care are presented. And finally, the rating of the quality of contraceptive service are compared across the two distinct models of HIV care, and only four domains/measures of service quality perceptions- client-staff interaction, information and communication, provider continuity and contraceptive method counselling - that meet the EPV criterion considered in developing the regression models for this thesis are presented here (see Chapter 3).

8.1 Participant characteristics across standalone youth clinics and general PHC clinics

Overall, a cross-sectional sample of 303 female ALHIV was included in the analysis. Over half (54.1%) of the participants attended general PHC clinics providing HIV care, with 45.9% attending standalone youth clinics providing HIV care. Table 8.1 presents the background characteristics of the participants by the clinic model- stand-alone youth clinics and general PHC clinics- across the potential confounders of the relationship between clinic model and the dependent variables. Female ALHIV at stand-alone youth clinics were less likely to be adherent to ART, enrol in the clinic for HIV care for more than one year, pALHIV, perceive community acceptance of contraception and stigma as high, attend HIV support group and currently use ART, but were more likely to have a partner with age-gap more than five years, engage in multiple sexual partnerships and report higher levels of perceived partner influence on contraceptive use than female ALWH at general PHC clinics (Table 8.1).

Table 8.1: Demographic characteristics of study participants, by clinic model

Variable	Category	Total %(N)	Clinic model		P-value
			Standalone Youth %(n)	General PHC %(n)	
Age group	14-17 18-19	40.6 (123) 59.4 (180)	35.3 (49) 64.8 (90)	45.1 (74) 54.9 (90)	0.08
Education	None/<Grade 7 Grade 7 and above	5.6 (17) 94.4 (286)	3.6 (5) 96.4 (134)	7.3 (12) 92.7 (152)	0.16
Alcohol use[ǂ]	No Yes	20.1 (61) 79.9 (242)	18.0 (25) 82.0 (114)	21.9 (36) 78.1 (128)	0.39
Time enrolled at the clinic	<1 year 1-2 years >2 years	55.8 (169) 25.4 (77) 18.8 (57)	67.6 (94) 16.6 (23) 15.8 (22)	45.7 (75) 32.9 (54) 21.3 (35)	<0.001
Mode of HIV infection	pALHIV hALHIV	33.0 (100) 67.0 (203)	20.1 (28) 79.9 (111)	43.9 (72) 56.1 (92)	<0.001
ART adherence	Not on ART Non-adherence Adherence	8.3 (25) 30.7 (93) 61.1 (185)	13.7 (19) 29.5 (41) 56.8 (79)	3.7 (6) 31.7 (52) 64.6 (106)	0.01
Self-efficacy	Low High	59.7 (181) 40.3 (122)	35.3 (49) 64.8 (90)	44.5 (73) 55.5 (91)	0.10
Client satisfaction with contraceptive services	Low High	47.2 (143) 52.8 (160)	42.5 (59) 57.6 (80)	51.2 (84) 48.8 (80)	0.13
Partner age-gap	5 years and above Below 5 year No partner	35.3 (107) 60.1 (182) 4.6 (14)	42.5 (59) 52.5 (73) 5.0 (7)	29.3 (48) 66.5 (109) 4.3 (7)	0.04
No. sex partners in past 12 months	None/1 sex partner >1 sex partners	69.6 (211) 30.4 (92)	60.4 (84) 39.6 (55)	77.4 (127) 22.6 (37)	0.001
Disclosure of HIV-status	Disclosed status Status not disclosed	54.1 (164) 45.9 (139)	49.6 (69) 50.4 (70)	57.9 (95) 42.1 (69)	0.15

Perceived partner influence	Low High	48.8 (148) 51.2 (155)	38.9 (54) 61.2 (85)	57.3 (94) 42.6 (70)	0.001
Perception of community acceptance of contraception	Low High	36.0 (109) 64.0 (194)	42.4 (59) 57.6 (80)	30.5 (50) 69.5 (114)	0.03
Felt stigma	Low High	42.2 (128) 57.8 (175)	57.6 (80) 42.4 (59)	29.3 (48) 70.7 (116)	0.001
Household SES	Low Medium High	17.2 (52) 46.9 (142) 35.9 (109)	15.1 (21) 46.8 (65) 38.1 (53)	18.9 (31) 46.9 (77) 34.2 (56)	0.62
Parental education	None/primary Secondary above unknown	22.4 (68) 58.1 (176) 19.5 (59)	27.3 (38) 56.8 (79) 15.8 (22)	18.3 (30) 59.2 (97) 22.5 (37)	0.10
HIV support group	No Yes	72.6 (220) 27.4 (83)	79.9 (111) 20.1 (28)	66.5 (109) 33.5 (55)	0.01
Employment	No Yes	94.7 (287) 5.3 (16)	92.8 (129) 7.2 (10)	96.3 (158) 3.7 (6)	0.17
ART use	No Yes	8.3 (25) 91.7 (278)	13.7 (19) 86.3 (120)	3.7 (6) 96.3 (158)	0.002
Receipt of contraceptive counselling at current clinic	No Yes	10.2 (21) 89.8 (185)	12.8 (11) 87.2 (75)	8.3 (10) 91.7 (110)	0.3

[ł]Ever drank alcohol

Significance at $p<0.05$

8.2 Models of HIV care and receipt of contraceptive services

8.2.1 Descriptive statistics

Overall**,** 61% of respondents received contraceptive counselling at their last clinic visit for HIV care at all-ages or standalone youth clinics, and 66% had access to condoms. The receipt of contraceptive counselling varied significantly across the clinic model (p=0.02), with 67% of female ALHIV at general PHC clinics receiving contraceptive counselling at their last clinic visit for HIV care, compared to 54% of female ALHIV at standalone youth clinics. Data not shown A higher receipt rate of condoms was also demonstrated among female ALHIV at general PHC clinics compared to their peers at stand-alone youth clinics (70.1% vs. 61.9%, p=0.13). Dual-method contraception was less widely accessed. Among female ALWH at stand-alone youth clinics, the receipt rate of dual-method contraception was 34.5%, whereas, in general, PHC clinics, the receipt rate was lower at 23.8% (p=0.04).

8.2.2 Association between Models of HIV care and receipt of contraceptive services

Table 8.2 displays the unadjusted and adjusted analysis of the association between the clinic model and the measures of the receipt of contraceptive services. In the unadjusted analysis, female ALHIV at standalone youth clinics had 42% lower odds of receiving contraception counselling than those at general PHC clinics (cOR 0.58 95% CI [0.36, 0.92]). In the final model adjusting for confounders, the association between the clinic model and the receipt of contraception counselling was attenuated, but this was non-significant (aOR 0.84 95% CI [0.55, 1.26]). The interaction involving the clinic model and age status was omitted in the final adjusted analysis due to collinearity. As noted above (Chapter 3), the coefficients and variances of the regressional model were within reasonable limits.

Receipt of condoms after testing positive for HIV was not crudely associated with clinic model (cOR 0.69 95% CI [0.43, 1.12]). Mantel-Haenszel test of homogeneity of odds ratios revealed evidence of effect modification between the association of clinic model and the receipt of dual-method contraception by the receipt of counselling ($p<0.05$), with higher odds of the receipt of condoms among female ALHIV reporting receipt of contraception counselling compared to those who did not report receipt of contraception counselling. Compared with female ALHIV at general PHC clinics, those at standalone youth clinics had non-significant reduced odds of receiving condoms after controlling for confounders (aOR 0.54 95% CI [0.26, 1.16]). The interaction involving the clinic model and the receipt of contraception counselling was omitted in the final adjusted analysis due to collinearity.

Female ALHIV at standalone youth clinics had a significantly greater odds of receiving dual contraception compared to those at general PHC clinics (cOR 1.69 95% CI [1.02, 2.79]). The Mantel-Haenszel test for homogeneity of odds showed no evidence for effect modification across the strata of baseline covariates. In the adjusted analysis, female ALHIV at stand-alone youth clinics demonstrated higher odds of accessing dual-method contraception compared to their peers at general PHC clinics (aOR 1.80 95% CI [0.81, 3.99]), although this was statistically non-significant.

Table 8.2: Crude and adjusted relationship between clinic model and receipt of contraceptive services

Mode of HIV acquisition	%(n)	cOR (95% CI)	aOR (95% CI)*
Ever received contraception counselling			
Stand-alone youth clinics	67.0 (110)	1.00	1.00
General PHC clinics	54.0 (75)	**0.58 (0.36 – 0.92)**	0.84 (0.55 – 1.26)[1]

Ever received condoms			
Stand-alone youth clinics	70.1 (115)	1.00	1.00
General PHC clinics	61.9 (86)	0.69 (0.43 – 1.12)	**0.54 (0.26 – 1.16)[2]**
Ever received dual-method			
Stand-alone youth clinics	23.8 (39)	1.00	1.00
General PHC clinics	34.3 (48)	**1.69 (1.02 – 2.79)**	1.80 (0.81 – 3.99)[3]

*Adjusted model without interaction

[1]Adjusted for individual factors (duration of enrolment in HIV care, mode of HIV acquisition, ART adherence, client satisfaction score), community factor (HIV-felt stigma) and structural factors (access to HIV support group, access to ART).

[2]Adjusted for individual factors (age, mode of HIV acquisition, ART adherence), relational factors (partner age-gap, number of sex partners, disclosure of HIV status to partner) and structural factors (access to HIV support group, access to ART, parental education, employment status, receipt of contraception counselling)

[3]Adjusted for individual factors (age, education, alcohol, mode of HIV acquisition, client satisfaction score), relational factors (number of sex partners, partner influence on contraceptive use), community factors (perception of community acceptance of contraception, HIV felt-stigma) and structural factors (parental education, access to HIV support group, employment status, receipt of contraception counselling)

Significant variables at $p<0.05$ highlighted

8.3 Models of HIV care and contraceptive usage

8.3.1 Descriptive statistics

Table 8.3 displays the distribution of indicators of contraceptive usage by clinic model. Among female ALHIV at all-ages clinics, 82.9% were current contraceptive users; this was true for 84.2% of female ALHIV at standalone youth clinics. There was no evidence of variation in the current use of contraception across the clinic model (p=0.76). Among female ALHIV at general PHC clinics who reported current contraceptive use, the proportion of current users of injectable methods was 58.8% compared with 62.4% among female ALHIV at stand-alone youth clinics (p=0.56). Also, there was no evidence of variation in the proportion of current users of other contraceptives, including, implants, IUDs, and hormonal pills among female ALHIV who reported current contraceptive use across the clinic model (p=0.64, 0.82 and 0.09, respectively), with 8.5% of female ALHIV at general PHC clinics being current users of LARC, compared to 9.5% among their peers at stand-alone youth clinics. A similar proportion of female ALHIV reporting current use of contraception at stand-alone youth and general PHC clinics reported current use of condoms as a primary method of contraception (28.2% vs. 27.2%, p=0.86); however, a higher proportion of female ALHIV currently using any method of contraception at standalone youth clinics reported current use of dual-method contraception than in general PHC clinics (53.0% vs. 44.9%; p=0.20). The great majority of female ALHIV reporting current dual-method contraception at each clinic model used injectable contraceptives, with higher proportion at standalone clinics compared to the general PHC clinics (82.3% vs. 77.0%, p=0.47).

Overall, the levels of unmet need for contraception among female ALHIV at standalone youth clinics and general PHC clinics after accounting for condom use consistency were similar (25.9 % vs. 22%, p=0.42). The rates of unintended pregnancy since testing positive for HIV were lower among female ALHIV at general PHC clinics compared to their counterparts at standalone youth clinics although the difference was not statistically significant (15.2% vs. 25.0%, p=0.08). A higher proportion of female ALHIV at stand-alone youth clinics considered their pregnancy unwanted as

compared to their counterparts at general PHC clinics (15.0% vs. 8.0%, p=0.05), but the difference did not reach statistical significance. A similar trend is seen regarding mistimed pregnancy (9.0% vs. 6.0%, p=0.32).

Table 8.3: Current contraceptive use, by clinic model

Characteristics	**All clinics % (N)**	**Clinic model**		**P value (x^2)**
		General PHC % (n)	**Standalone % (n)**	
Current use (all modern methods) (N=253)				
Yes	83.5 (253)	82.9 (136)	84.2 (117)	0.76
Current use by primary method type[ǂ] (N=253)				
Condoms (only)	27.7 (70)	27.2 (37)	28.2 (33)	0.86
Injectable	60.5 (153)	58.8 (80)	62.4 (73)	0.56
NET-EN	57.7 (75)[*]	60.0 (39)[*]	55.4 (36)[*]	0.60
DMPA	42.3 (55)[*]	40.0 (26)[*]	44.6 (29)[*]	
Not known[**]	(23)	(15)	(8)	
Implants	5.9 (15)	6.6 (9)	5.1 (6)	0.64
IUD	3.2 (8)	2.9 (4)	3.4 (4)	0.82
Pills	2.7 (7)	4.5 (6)	0.9 (1)	0.09
Dual-method use (N=123)				
Yes	48.6(123)[ǂ]	44.9 (61)	53.0 (62)	0.20
Method mix among current dual-				

method users (N=123)				
Injectable	79.7 (98)	77.0 (47)	82.3 (51)	0.47
NET-EN	60.5 (52) *	71.8 (28) *	51.1 (24) *	0.05
DMPA	39.5 (34) *	28.2 (11) *	48.9 (23) *	
*Not known***	(12)	(8)	(4)	
Implants	8.8 (11)	8.2 (5)	9.7 (6)	0.77
IUD	5.7 (7)	4.9 (3)	6.5 (4)	0.85
Pills	5.7 (7)	9.9 (6)	1.5 (1)	0.21

*Percentage of injectable method mix, exclude those who reported not knowing their particular injectable methods

**Injectable method used not known

ŧPercentage of method mix, excluding non-current contraceptive users

8.3.2 Association between models of HIV care and contraceptive usage

Table 8.4 shows the unadjusted and adjusted analysis of the association between the clinic model and the measures of contraceptive usage. Female ALHIV attending standalone youth clinics had similar odds of current contraceptive use relative to their counterparts attending general PHC clinics in the unadjusted regression analysis (cOR 1.09 95% CI [0.60, 2.02]). A stratified analysis of the relationship between clinic model and current contraceptive use demonstrated no evidence for effect modification among baseline independent variables on the association between clinic model and current contraceptive use. In the multivariable analysis adjusting for confounders, the association between the clinic model and current contraceptive use was unchanged (aOR 0.99 95% CI [0.59, 1.67].

In the unadjusted analysis, a female ALHIV odds of having an unmet need for contraception were similar across clinic models- stand-alone youth clinics and general PHC clinics (cOR 1.24 95% CI [0.73, 2.11]. The Mantel-Haenszel test for homogeneity of odds of the association between clinic model and unmet need for contraception, stratified by other key covariates, did not identify an effect modifier. There was no association between clinic model and unmet needs for contraception (aOR 1.64 95% CI [0.90, 2.98]), adjusting for potential confounders.

The crude association between unintended pregnancy and clinic model was not significant (cOR 1.66 95% CI [0.93, 2.97]). The Mantel-Haenszel test for homogeneity of odds revealed that the effect of the clinic model on unintended pregnancy did not vary across strata of the potentially modifying variables ($p>0.05$). The adjusted analysis shows that female ALHIV at stand-alone youth clinics and general PHC clinics had similar odds of unintended pregnancy (aOR 1.06 95% CI [0.57, 1.98]).

Table 8.4: Crude and adjusted relationship between clinic model and contraceptive usage

Clinic model	n(%)	cOR (95% CI)	aOR (95% CI)*
Current contraceptive use[a]			
Stand-alone youth clinics	82.9 (136)	1.00	1.00
General PHC clinics	84.2 (117)	1.09 (0.60 – 2.02)	0.99 (0.59 – 1.67)[1]
Unmet need for contraception			
Stand-alone youth clinics	25.9 (36)	1.00	1.00
General PHC clinics	22.0 (36)	1.24 (0.73 – 2.11)	1.64 (0.90 – 2.98)[2]
Unintended pregnancy			
Stand-alone youth clinics	24.6 (50)	**1.00**	1.00
General PHC clinics	7.0 (7)	**1.66 (0.93 – 2.97)**	1.06 (0.57 – 1.98)[3]

*Adjusted model without interaction

[1]Adjusted for individual factors (age, education, duration of enrolment in HIV care, self-efficacy, client satisfaction score), relational factors (partner age-gap, partner influence on contraceptive use), community factor (HIV-felt stigma) and structural factors (access to HIV support group, receipt of contraceptive counselling)

[2]Adjusted for individual factors (age, duration of enrolment in HIV care,Adherence to ART), relational factors (partner age-gap, partner influence on contraceptive use), community factors (perceptions of community acceptance of contraceptive use) and structural factors (parental education)

[3]Adjusted for individual factors (age, education, duration of enrolment in HIV care), relational factor (disclosure of HIV status to partner), community factor (HIV felt-stigma) and structural factors (parental education, employment status, access to ART)

significant variables at p<0.05 highlighted

[a]Include condoms as well as other forms of contraception

8.4 Models of HIV care, client satisfaction and service quality perceptions

8.4.1 Descriptive statistics

The aggregate mean satisfaction score among all female ALHIV was 4.0 (SD 0.55). Standalone youth clinics had a higher aggregate mean satisfaction score, which differed statistically from general PHC clinics (4.04, SD 0.53 vs. 3.89, SD 0.55, p=0.01). Regarding service quality perception measures, the proportion of female ALHIV reporting optimal rating of client-staff interaction was non-significantly higher in standalone youth clinics compared to general PHC clinics (25.2% vs 17.7%, p=0.11). Also, the proportion of female ALHIV reporting optimal rating of information and

communication regarding contraception was non-significantly higher in stand-alone youth clinics compared to general PHC clinics (36.7% vs. 29.9%, p=0.17). In contrast, a significantly lower proportion of female ALHIV at standalone youth clinics (compared to general PHC clinics) reported ever being informed about multiple contraceptive methods (73.8% vs. 61.2%, 0.02). In terms of provider continuity, the rates were similar between female ALHIV at standalone youth and general PHC clinics (51.2% vs. 42.2%, p=0.13).

8.4.2 Association between Models of HIV care, client satisfaction, and service quality

The unadjusted and adjusted odds of client satisfaction (score >=4) with contraceptive services by clinic model are presented in Table 8.5. In the unadjusted analysis, there was no association between client satisfaction and clinic model (cOR 1.42 95% CI [0.90, 2.24]). There was evidence of effect modification by the receipt of contraception counselling (p<0.05). In the final multivariate analysis adjusting for potential confounders, the clinic model was not associated with client satisfaction (aOR 1.25 95% CI [0.87, 1.81]). The interaction term was excluded from the final model due to collinearity.

Regarding client perception of service quality, female ALHIV at stand-alone youth clinics had non-significant higher odds of reporting optimal rating of client-staff interaction in the unadjusted analysis (cOR 1.57 95% CI [0.90, 2.73]; Table 8.4). Mantel-Haenszel test of homogeneity of odds revealed that there is no evidence of effect modification between the association of clinic model and optimal rating of client-staff interaction. In the adjusted analysis, the direction of the association between the clinic model and optimal rating of client-staff interaction is reversed (aOR 0.92 95% CI [0.59, 1.46]); Table 8.4), though non-statistically significant.

In terms of information and communication (Table 8.4), the unadjusted odds of optimal rating were not significantly different for female ALHIV at standalone and general PHC clinics (cOR 1.40 95% CI [0.87, 2.27]). Mantel-Haenszel test of homogeneity of odds showed that none of the potential effect modifiers significantly modified the effects of the clinic model on the optimal rating of information and communication. In the adjusted analysis, the odds of information and communication remained non-significantly different for female ALHIV at standalone and general PHC clinics (aOR 0.92 95% CI [0.59, 1.46]).

Results from the unadjusted and adjusted analyses of the association between clinic model and having being informed about multiple contraceptive methods are displayed in Table 8.4. Bivariate analysis of the association between having being informed about multiple contraceptive methods and clinic model, across potential effect modifiers, revealed no evidence of effect modification. In the unadjusted analysis, female ALHIV at standalone youth clinics had significantly lower odds of having being informed about multiple contraceptive methods compared to female ALHIV at general PHC (cOR 0.56 95% CI [0.34, 0.91]), and this association remained statistically significant in the adjusted analysis (aOR 0.41 95% CI [0.22, 0.76]).

Table 8.5: Crude and adjusted relationship between mode of clinic model, client satisfaction with services and perceptions of service quality

Clinic model	n(%)	cOR (95% CI)	aOR (95% CI)*
Client satisfaction (score >=4.0)			
Standalone youth clinics	48.8 (80)	1.00	1.00
General PHC clinics	57.6 (80)	1.42 (0.90 – 2.24)	1.25 (0.87 – 1.81)[1]
Optimal rating of client-staff interaction			
Standalone youth clinics	17.7 (29)	1.00	1.00
General PHC clinics	25.2 (35)	0.86 (0.45 – 1.66)	0.86 (0.90 – 2.73)[2]

Optimal rating of information and communication			
Standalone youth clinics	29.3 (48)	1.00	1.00
General PHC clinics	36.7 (51)	1.40 (0.87 – 2.27)	0.92 (0.59 – 1.46)[3]
Methods variety discussed			
Standalone youth clinics	73.8 (121)	1.00	1.00
General PHC clinics	61.2 (85)	**0.56 (0.34 – 0.91)**	**0.41 (0.22 – 0.76)[4]**

*Adjusted model without interaction

[1]Adjusted for individual factors (education, duration of enrolment in HIV care, mode of HIV acquisition, ART adherence, self-efficacy), relational factor (partner influence on contraceptive use), community factor (perception of community acceptance of contraception, HIV-felt stigma) and structural factors (parental education, access to HIV support group, receipt of contraceptive counselling, employment status, access to ART)

[2]Adjusted for individual factors (age, mode of HIV acquisition, self-efficacy), relational factors (partner influence on contraceptive use), community factors (perceptions of community acceptance of contraception, HIV felt-stigma) and structural factors (access to HIV support group, employment status)

[3]Adjusted for individual factors (age, education, mode of HIV acquisition, self-efficacy), relational factor (partner influence on contraceptive use, number of sex partners), community factor (perception of community acceptance of contraception, HIV felt-stigma) and structural factors (access to HIV support group)

[4]Adjusted for individual factors (age, education, mode of HIV acquisition), relational factors (partner age-gap, HIV concordance, partner influence on contraceptive use), community factors (HIV felt-stigma) and structural factors (access to HIV support group, receipt of contraception counselling)

Significant variables at $p<0.05$ highlighted

9. Provider perceptions of contraceptive service delivery in the context of HIV

This chapter presents the findings from the qualitative interviews that took place between April and June 2017. The response rate and the background characteristics of Individual In-depth Interview (IDI) respondents (providers) are described first. Then, the qualitative findings are presented under the themes that emerged: (1) preponderance of injectable contraception, (2) inconsistent contraceptive use, (3) views on IUD use, (4) provider gender preference, (5) peer, partner and child grant influence on contraceptive use, (6) factors promoting ALHIV contraceptive use, (7) provider attitudes to contraceptive services for ALHIV, (8) provider competency and training, and (9) challenges and recommendations for improving contraceptive services.

9.1 Participant profile

Of the total 20 sampled healthcare providers, 19 were available for interviews. As emphasised in Chapter 3 (see subsection 3.3.1), an interview with one provider was not possible because the individual was out of town during the qualitative study period. Table 9.1 captures the background characteristics of the IDI participants.

Table 9.1 In-depth interviews participant background profile (N=19)

Characteristics	Category	
[+]Mean age (range); years		41.4 (29-57)
Clinic/worksite	Stand-alone youth clinics	6
	All-ages clinics	13
	Sub-strict managers	2
Professional role	Doctors	4
	Nurses	5
	ART-adherence counselors	2
	HIV-operational managers	3
	Facility managers	3
	Sub-district managers	2
Median Years working in current clinic (IQR)		4 (3 – 8.5)
Median Years working in HIV-programme (IQR)		7 (4.5 – 10)
Median Years of experience in Contraceptive service provision (IQR)		10 (4.5 – 18.5)

*computed for 16 respondents because three respondents declined to disclose their ages.

9.2 Provider views on ALHIV contraceptive preference and use

This section presents the themes that emerged in providers' perspectives of female ALHIV contraceptive method preference and use, along with factors influencing contraceptive method preference.

9.2.1 Preponderance of injectable contraception

Even though the access provided by clinics to a range of free contraceptives other than condoms such as pills, injectables, implants, and IUDs, the general sense across all interviews was that female ALHIV relied heavily on the use of injectable contraceptives, especially the two-monthly injectable, Nuisterate. There was little use of other longer-acting methods such as implants or IUDs. A female provider said: "At the moment, most of them use the injectables - they use any injectable" (Nurse, female, 29 yrs.). Another female provider noted the heavy reliance on injectable contraception seems to indicate client preference in the view of providers: "They like to come for the injectables- the Nuristerate and Petogen ...there is a problem of believing in the IUD, we teach them about the IUD, but most of them are on (Nuristerate)...I think I have got a higher rate of patients on Nuristerate" (Doctor, female, 43 yrs.).

Providers in this sample mentioned influences on ALHIV heavy reliance on injectable contraception with respect to the following issues: (1) ease of compliance, and (2) perceived increased pill burden for ALHIV with the oral contraceptive pill. Providers generally described their concerns about ALHIV client compliance with HIV/ART clinic visits as a key reason they promote injectable contraception among female ALHIV. In general, providers noted that injectable contraception appeared to them as the most feasible option for female ALHIV due to ease of compliance, given the coinciding of ART visits with a two-month contraceptive injection. These views are exemplified in the following responses: "Normally we give them 2 month supply of ARVs. We preferably use the 2 months injection so that when they come for their drugs (ARVs)

they get the 2-month injection as well" (ART operation manager, male, 34 yrs.). "Our follow-up visits are every 2 months so the injections coincide with the follow-up visits here ..so what it basically means – one-stop shop…everything is under one roof where it is a reminder when they come here ..you actually have to do that" (Doctor, female, 43 yrs.).

The issue of compliance with clinic visits due to the long lifespan of IUDs was also cited by some providers. They felt the long lifespan of IUDs with no need for regular clinic visits for maintenance is linked to non-adherence to HIV care and treatment among female ALHIV. These views are captured below: "For me, I recommend the injectables because the injectables make them come to the clinics. If we give them five-year contraception (IUDs) …. they won't come to take their treatment in the clinics" (Counselor, female, 36 yrs.).

Providers also thought that the reliance of female ALHIV on injectable contraception stemmed from the issue of pill burden. As noted in the quote below from an HIV clinic manager, it seems that both that clients and providers are concerned about pill burden resulting from medications for HIV-related and –unrelated indication: "I think the reason for that [heavy reliance on injectable contraception] is that the country has a high rate of poor adherence to the ARV tablets so adding one tablet to the ARV medication and with the adolescent also forgetting to come and a lot of our girls actually prefer the depot injections" (ART clinic operational manager, male, 36 yrs.).

9.2.2 Inconsistent contraceptive use

Providers' perspectives on inconsistent use of condoms and other contraceptive methods are collapsed into five subthemes: (1) erratic condom use, (2) side effects of injectable contraception, (3) fertility concerns, and (4) service-related obstacles.

Erratic condom use

Most providers who shared their views on the consistency of condom use mentioned that many female ALHIV who were willing to use condoms and had condoms provided at the clinics often used condoms inconsistently. Some providers reported that many female ALHIV who were regularly offered condoms present with sexually transmitted infections. “We have a problem here. We have a problem. Most of the youth here they don’t use condoms whether they are positive or they are negative. Whenever you ask them are you using a condom then they will say ‘No” sister I use it part-time. All of them, whether they are positive or negative there is no specific that because they are HIV-positive then they use it. They don’t” (Nurse, female, 29 yrs.).

Providers also reported that erratic condom use among female ALHIV stemmed from clients’ perception of reduced risk of HIV infection transmission with adherence to ART medications. This perception among female ALHIV was attributed to how information is communicated. A female nurse said: “I think sometime it is how all of this information is communicated to them. For example, they are told if you are taking your ARV daily, you don’t miss taking them, your chances of your partner contracting HIV are very little. So these kids take that and decide if I don’t use condom my partner is not gonna get HIV. It is how it is being communicated that actually I think sometime is what is misleading them. So they decide not to use the condom because of that..” (Nurse, female, 30 yrs.).

Side effects of injectable contraception

Concerns about the side effects of injectable contraceptives was a common reason providers cited for contraception discontinuation among female ALHIV, however, information about whether clients changed to another method or stop using contraception altogether was not elicited. The perception of the providers is captured in this response: “Sometimes the others say this method [injectables] is making me fat ….this is making me to have breakthrough bleeding…..another thing the amenorrhoea,,…No I want to have my menses this injection stopped me from having menses” (Facility manager, female, age unknown).

Fertility concerns

Providers highlighted the issue of fertility concerns as a barrier to consistent use of contraception among female ALHIV. In particular, providers noted that female ALHIV are concerned about their fertility potential and often discontinue contraception in order to conceive. The responses below demonstrate this:

"Yes, they discontinue if they are getting older using contraceptives and they try to fall pregnant just to see if they are able to. I have heard quite a few cases saying Sister I think I am getting old…..let me just see if I can get pregnant……then they discontinue their contraceptive method" (Nurse, female, 30 yrs.).

"One of the reasons is that they want babies ….they want children…. I asked them last year to write out the burning questions that they have anonymously…..and all of them wanted to know about babies…. they are more concerned about conceiving …..they are scared they will be left alone somewhere and not have a normal life like any other ….so they want to have children because they don't want to be stranded" (Nurse, female, 49 yrs.).

Service-related obstacles

Providers described service-related obstacles to ALHIV consistent contraceptive with respect to two key issues: limited service hours; and long waiting times. Feedback from providers suggests that the current clinic operating hours (08.00 – 16.30 hrs on Mondays through Fridays) hinder sustained use of contraception among in-school female ALHIV. One female provider said: "the only problem is after-hours services for the ones (female ALHIV) in grade 12 or the ones that are doing after school classes because the clinics close half past 4 so the ones that come leave the schools around 4'O clock … may be they get to the clinic 20 past 4'Oclock and they stay in line ..so by the time they enter the consultation room it is half past 4 so by half past 4 you must close out" (Nurse, female, 29 yrs.). Another provider said: "Because they are in schools they will say sometime they don't have time to come to the clinics because they finish late in schools, they are attending afternoon classes and all that" (Nurse, female, 43 yr.).

Some providers recognized the limited-service hours as a barrier and suggested they are trying to address this. For example, a health-system level service provider mentioned access to after-hours' services as an important component of patient-centeredness of contraceptive care for female ALHIV: "We are providing more and more extended hours services after 4pm when the adolescents are available after school…the nurses are expected to run adolescent services and we are also training our school nurses in the art (Sub-district area manager, female, 57 yrs.).
A female nurse noted long waiting time for female ALHIV to be seen by service providers in clinics hindered consistent use of contraception in this group of PLHIV: "If they are going to wait for too long that discourages them from continued use of contraception" (Nurse, female, 30 yrs.).

9.2.3 Views on LARC use

Providers identified possible fears underpinning ALHIV reluctance to use LARC. These are collapsed into three sub-themes: (1) fear of IUD entering the womb; (2) fear about IUD causing infertility and IUD translocation; (3) fear of fetal abnormalities caused by IUD; (4) concerns about the concomitant use of ART and implanon; and (5) fear of implanon being robbed.

Fear of IUD entering the womb

Providers mentioned that ALHIV clients' concerns about the IUD being a method that entails insertion into the uterus seem to be a key reason ALHIV prefer injectable contraception to the IUD. An ART adherence counsellor says: "Sometimes when we tell them about the loop they are afraid of it because we tell them that they are gonna open their legs and we put it in the womb …so they are afraid of it and they prefer the injectables" (Counsellor, female, 38 yrs.).

Fears about IUD causing infertility and IUD translocation

Providers described two main issues of concern with respect to the community perception of the effect of IUD on ALHIV client. These include fertility concerns and IUD translocation. These are

captured in the response of a female physician: “Because of the community telling them IUD is going to be lost in your tube …..you are not going to conceive ….those are the myths they talk about in the community” (Doctor, female, 43 yrs.).

Fear about babies being born with IUD in the hand

Some providers also mentioned that female ALHIV feel they would deliver babies with IUD in the hand if they became pregnant while using IUD. As one provider put it: “First of all they are afraid to use IUD …they will tell lot of story that the baby will come out carrying it in the hand” (Nurse, female, 30 yrs.).

Concerns about the concomitant use of ART and Implanon

Providers generally considered the relative effectiveness of contraceptive implants in clients on efavirenz-based ART as a critical reason they stopped providing ALHIV with implantable contraceptives despite ALHIV clients’ interest in the method. Many participants reported that the provincial guidelines indicated that the ARV efavirenz use reduces the efficacy of implants to prevent unintended pregnancies when using concomitantly. Before this, the insertion of contraceptive implants among female ALHIV had been popular. A response from a female physician captures the views of many respondents: “At the time the implanon came it was the best for them.. they all wanted the implanon ..unfortunately we have to face the problem of drug interaction…..unwanted pregnancy…. and stop the implanon but they all wanted the implanon” (Doctor, female, 43 yrs.).

According to a female nurse, providers promote injectable contraception over implanon because of the perceived reduction in the efficacy of implanon when used concomitantly with ART: “...there are certain methods you cannot use when you are on ART because ART decreases the efficacy of those methods, so they are contraindicated in people living with HIV …. For example, If they are using Implanon or combined oral contraceptive pills, then they need to use a

secondary protective measure so that they don't fall pregnant. Hmm……So most of them are left with two options- IUD and Petogen- we are offering in the clinic.." (Nurse, female, 30 yrs.)

According to a sub-district manager at the Western Cape DOH, providers are reluctant to provide implants to WLHIV, despite government's efforts to dispel the inaccurate information around ART and implants: "Things like unintended pregnancy and drug interactions with the implanon that was a major issue that was brought to our attention and we had to have a medical officer going around to make sure …and also the MSF providers…with the articles and evidence to dispel the inaccurate information that implants cannot be used by women with HIV… but some of the providers are not convinced that implanon should be given with some ARV medications" (Subdistrict manager, female, 57 yrs.).

Fear about implanon being robbed

Though the available qualitative data precluded information on the reasons behind implant robberies, one provider who was not included in the IDI said that drug addicts were robbing women of the implantable contraceptives to make a potent cocktail. It seems this is a myth and doesn't in fact happen. A female nurse said: "….there was a story that was going around that Implanon get robbed. Somebody would come and stab you and take out the implanon. So that thing influences a number of our patients. Something that come from the community and they bring to our awareness. Unfortunately, we are still stocked with the consequences of whatever it is that is preached out there because they still believe even till today that Implanon get robbed… that is why they are not considering it. They would rather prefer injectable" (Nurse, female, 29 yrs.).

9.2.4 Provider gender preference

When asked about female ALHIV gender preference of providers during contraceptive care, providers consistently reported that female pALHIV would prefer female providers to male providers because they are shy at showing their body to a male provider. This is captured in the

response of an adherent counselor: “Sometimes the girls say I am not going to the boetie (male) because I cannot show that man my boms (buttock) ..I always tell them that man is nurse …he does not care about their nums.. .but he always want to give them the contraception only….then they run away to the other rooms with female providers” (Counselor, female, 36 yrs.).

9.3 Perceptions of influences on contraceptive use

9.3.1 Peer, partner and child grant influences on contraceptive use

Providers also mentioned they believed that peers negative perspectives dissuaded female ALHIV from using injectable contraception. A response from a female ART adherence counsellor summarises the extent to which they believed interpersonal relations between peers may prevent female ALHIV from obtaining injectable contraception and using it: “The peers are discouraging them from using family planning (injectables) by saying if you have the family planning you gonna be fat…if you put the family planning you gonna be ugly…telling them mixed things that you gonna be ugly…..you gonna be fat….then you must stop the family planning..that is what they always tell each other when they are sitting (in waiting room)” (Counselor, female, 36 yrs.).

Some providers felt child support grants discouraged female ALHIV from using contraception altogether. When discussing the reasons for the reluctance of female ALHIV to use contraception, a facility manager said: “We have got unemployment now, these girls want to be pregnant for social grant because once they have a child they can take money from the government. Secondly, they need something to hold their boyfriends or sugar daddies (blessors) because they will look after them” (Facility manager, female, 42 yrs.)

In general, providers felt that older male partners play an ambiguous or divided role in female ALHIV contraception – some deterring contraceptive use and other older male partners promoting contraceptive use. Some providers thought that female ALHIV who engage in sexual relationships with older male partners who exchange some amounts of money for sex are not likely to use condoms. This is captured in the response of a male nurse: “If the sugar daddy is providing money and is not willing to use condoms….of course they dictate whether to use condoms or not” (ART operational manager, male, 36 yrs.). In contrast to the role played by male sexual partners in dissuading female ALHIV from using condoms, some providers attributed female ALHIV contraceptive access to the support received from older male partners. “ We found in some of our services that the older boyfriends would actually bring them to the clinics for contraceptives….so with family members, and especially mothers and aunties they want the children to complete their education” (Sub-district manager, female, 57 yrs.).

9.3.2 Factors promoting ALWH contraceptive use

Providers commonly described some female ALHIV receiving support and encouragement from family, partners, peers, and social workers in the health system to access and use contraception. The views of providers on support for female ALWH contraceptive access are collapsed into two broad sub-themes: (1) personal, interpersonal and social factors, and (2) health service-related factors.

Personal, interpersonal and social factors

Client fears of pregnancy

Providers reported how the society views teenage pregnancy and negative consequences of being a young mother as something that has encouraged female ALHIV to utilise contraception. One respondent, male ART operational manager stated: “The fear of what people will say or the

reactions from the parents and the community ……the fear of having a child and not sleeping because the baby is crying are some reasons they use contraception" (ART operational manager, male, 36 yrs.).

Parent fears of pregnancy

Providers reported that female ALHIV vulnerability to pregnancy seemed to be an important concern to parents, and female ALHIV are often brought to the clinics for contraception by the family members, even when they were not aware of their HIV-positive status. "Most of our HIV-positive adolescent girls are sent by their parents. Sometime may be the parents won't know because they hide their status but they are sent by their parents to come for contraception due to the fact that they (parents) come late home and because they don't stay at home and they go out partying and all of that" (Nurse, female, 29 yrs.).

Family desire for education completion

In some cases, providers thought that aspirations for female ALHIV to complete their education underpinned family's support for contraception: **"**Family members, and especially mothers and aunties they want the children to complete their education....they kind of encouraging them to come and use contraceptives…. they don't want them to be pregnant" (Sub-district manager, female, 57 yrs.).

Peer influence and support groups

Some providers noted the important motivating role of peer social networks in access to and utilisation of contraception among female ALHIV. This is captured in the responses below:

"Peers….Peer influence is what actually bring us numbers ….is what bring everyone else actually coming" (Nurse, female, 30 yrs.).

"We have got this thing what we called peer pressure and now the group that are using family planning or they are on contraceptives everybody should be on a family planning method so they come as a group so those are the things that are making them to use contraceptives" (Facility manager, female, 42 yrs.).

Another respondent suggested that the negative effects of teenage pregnancy by others could influence female ALHIV to utilise contraception: "May be a close relative or friend that have got pregnant and they see the difficulty and they don't want to have that same life" (Doctor, female, 44 yrs.).

Health service-related factors

As highlighted below, one provider discussed the girl empowerment programme in some clinics as a key facilitator of female ALHIV access to contraception. However, this was not probed further. "We have this girl power initiative offering Youth Friendly services..they form a relationship with the adolescents..they have group sessions with them..they come more now for contraception via the girls power program" (ART operational manager, female, 34 yrs.).

HIV-support groups/clubs seem to be an important component of health system support for contraceptive uptake among female ALHIV through peer-counsellors.

"We have got what we called the youth focus team that has a young counsellor and a young professional nurse that attend to our adolescents….we are doing this in their own space where they can freely express themselves and this is where the youth team gets a chance to explain to the adolescent females that are infected with HIV the different contraceptives" (ARV operation manager, Male, 34 yrs.).

"The other linkage we have done now is that with the ARV service we have got adolescent clubs so those needs (contraceptive services) are also important and so the adolescent contraceptive services are being linked with the clubs" (Facility manager, female, age not given).

9.4 Provider perceptions of ALHIV contraceptive services

Provider views about ALHIV contraceptive services are collapsed into three themes: (1) provider attitudes to contraceptive services for ALHIV, (2) provider competency and training, and (3) challenges and recommendations for improving contraceptive services.

9.4.1 Provider attitudes to contraceptive services for ALHIV

Provider attitudes toward female ALHIV seeking contraception are collapsed into three sub-themes: (1) positive provider attitude, (2) negative provider attitudes, and (3) views on hALHIV and pALHIV.

Positive provider attitudes

Positive provider attitudes included friendliness, the privacy of care/confidentiality and client-centred care, with a minority also describing respectful care and empathy. Regarding friendly and respectful interpersonal interactions between providers and female ALHIV, rapport-building behaviour more likely with female pALHIV was described as an important factor and was related to the length of time since enrolment in HIV care that facility. A provider from a general PHC clinic summarised how the mode of HIV acquisition or length of time since enrolment in HIV care promoted friendly and respectful interpersonal interactions between providers and female ALHIV: “I think friendliness and respect also the fact that we accommodate them and again the rapport that develops over the years and a number of them have been with us from the times they have been babies and that relationship has grown and blossom over the years. So is the mutual trust and the safety” (Doctor, female, 43 yrs.).

Providers also considered positive provider attitudes to be a key reason for the lack of differential preference for provider gender among ALHIV. One ART operational manager from a general PHC clinic acknowledged the importance of provider attitude stressing that positive provider attitudes would mean that there would be unlikely to be a preference for female providers among female

ALHIV: “I don’t think they have any preference I think the most important part here is the attitude of the health provider you can be older person but if you have the ways/skills of approaching the younger ones they can be comfortable..I think it can be more about the providers and not the clients” (ART Operational Manager, male, 34 yrs.).

Some providers sometimes reported youth-friendly programming characteristics, specifically clients calling providers by nicknames or first names and providers giving warm smiles during contraceptive care visits, as qualities that suggest friendly interpersonal interactions between providers and female ALHIV. A facility manager from a stand-alone youth clinic said: “They (providers) have got good relationship with them because you will find that they even know the providers by their first names because only the surnames that are on those doors ..you will see that they call the sisters by nicknames that means they have got good relationship with them” (Facility manager, female, age not given).

Providers mentioned client privacy as an attribute of positive provider attitudes during contraceptive care for ALHIV. Most providers felt that patient privacy was achieved during contraceptive provision for female ALHIV. The response of a female physician from a general PHC clinic captures the views of most providers: “Privacy is not even a discussion. This is part of our training. We work with privacy. We work with …the correct term is confidentiality and I don’t need the mother if the child wants to have it” (Doctor, female, 43 yrs.). Providers also mentioned friendliness as a positive attribute of provider attitudes. When discussing positive provider attitudes during contraception consultations, a young provider from a stand-alone youth clinic noted: “One, you have to put a smile on your face...The mere fact that we are placed in youth clinic I think we are chosen specifically for this place. Yeah….we do tend to be friendly…..we are friendly” (Nurse, Female, 29 yrs.).

Interviewed providers generally felt that providers showed empathy to female ALHIV during contraception consultations; this could be explained by the narratives expressing provider commitment to shortening waiting times for female ALHIV along with female ALHIV openness in

discussing personal challenges with providers. One female provider from a general PHC clinic noted: “We want to help them first…..we don’t want them to wait in the queue” (Nurse, female, , 43 yrs.). In a standalone youth clinic, a female provider said: “We give more support to the HIV positive adolescent girls because most of the times they have personal problems we talk about it” (Nurse, female, 29 yrs.).

Negative provider attitudes

Although a substantial number of interviewed providers believed that positive attitudes towards ALHIV seeking contraception were the norm, they still described the negative attitudes expressed by their colleagues towards this sub-group of females living with HIV. Providers’ views suggest that some providers have negative judgemental attitudes regarding contraception towards younger female ALHIV in particular. Some providers equated older provider age with negative, judgemenatl provider attitudes. The quote below from a system-level provider summarises the responses from many interviewed providers: “Provider age definitely matters because we find especially in our experience with the younger providers …..I would say in most facilities we do have attitude problems…I would say it is also link to the older providers” (Sub-district Area Manager, female, 57 yrs.).

The perception of parental figures among older providers seem to be connected to their negative, judgemental attitudes regarding contraception for female ALHIV. A female physician from a general PHC clinic said: “Okay we are human and I know for mothers (providers) that we have here who are staff you wouldn’t like your child to be given contraception that means the child is involved in sexual activities …I wouldn’t like my 15 year old to start having sex..I know about that feeling..I have got children and sometime it is the community…that stigma around ..that myth around sex for the younger age because it is condemned” (Doctor, female, 43 yrs.). The same female physician had this to say about female ALHIV client reactions in response to a provider’s judgemental attitude about contraception: “I had reports from some children complaining about a certain doctor and I just had to speak to the colleague to understand the needs of the adolescents and their rights” (Doctor, female, 43 yrs.)

The provider's description of female ALHIV perceived rude behaviour of providers not only reflects judgemental attitudes of providers toward female ALHIV during consultations for contraception but offers further insight into the negative attitudes of providers toward female ALHIV requesting contraception. One female noted: "they see the other sister as somebody that is rude, what do you want…things like that fell onto these children and it goes down ..and this is not here and the children still feel we are the same....although they try utmost to be kind most person… ..for the contraceptives they still have that…they are fearful of the providers" (Nurse, female, 49 yrs.).

When asked about the privacy of contraceptive service provision to female ALHIV, one respondent said this: "I think it is more sort of …may be shouting all over or may be joking a little bit inappropriately with the girls around….also you have come for… in a space or in a more public space …I think it is more in the treatment room where there may be other people in the treatment room so it might not be absolutely appropriate to be talking so openly" (Doctor, female, 49 yrs.).

Views on pALHIV and hALHIV

Providers discussed their views on contraception for pALHIV and hALHIV with respect to the following issues: (1) service delivery preferences, and (2) contraceptive uptake and method use. Though some providers saw mode of HIV acquisition coinciding with younger age of providers, another view was that pALHIV and hALHIV are similar with respect to provider age preference. A perceived lack of pALHIV and hALHIV differential preference for younger providers was seen as stemming from the positive attitudes of their providers rather than age. An ART adherence counsellor from a general PHC clinic said: "Those who got HIV infections from their mothers and those who got it through their behaviours like to see younger providers because they are still young" (Counselor, female, 43 yrs.). In contrast, a provider from a stand-alone youth clinic said: "They (pALHIV and hALHIV) are not different in terms of the type of provider (age) they would like to see" (Counselor, female, 36 yrs.). Another provider from a general PHC clinic believed that

positive provider attitudes underpin the perceived lack of differential preference for provider age between pALHIV and hALHIV: ".. for my place here is about the relationship…It is the way the health care provider builds relationship with the client. Age does not matter at all. I am quite older to them but because I have got that relationship. When you have the attitude and the relationship in attending to adolescents then age does not matter" (Doctor, female, 43 yrs.).

Providers also emphasised that female pALHIV were more likely to prefer the continuity of care with a particular provider compared to their hALHIV counterparts. The preference of pALHIV for continuity of care may be explained by their attachment to these providers beginning at a young age, bound in issues of positive provider attitudes. A response from a female physician from a general PHC clinic captures what many providers reported: "those who got it through their behaviours like to see any provider ….they don't care about who saw them last week but those born with HIV they have got many issues …..they like to see the same person every time they come…....those are the babies that I raised and now they are 15, 16 and they would rather see me....they choose when they come.." (Doctor, female, 43 yrs.).

Providers most often reported that they don't distinguish between pALHIV and hALHIV in providing contraceptive services. Providers also viewed contraceptive method use to be similar between pALHIV and hALHIV because they perceived the two distinct groups of ALHIV as having similar sexual behaviours. The similarity in contraceptive method use between pALHIV and hALHIV was also attributed to their age category. These are captured by the responses of three providers:

"It is not like you really dig into how they (female ALHIV) acquire HIV during consultation…..you just deal with someone who is positive ..you just give the same service to female ALHIV ….as long as you are positive we just do the same thing (method provision)" (Operational manager, male, 34 yrs.).

“Once they get to the stage of needing a contraceptive it is the same....because it’s the same behaviours they gonna have whether they got HIV at birth or later ….you (provider) will still provide the same talks with everybody else (Doctor, female, 44 yrs.).

“They don’t differ. They use the same methods. ....It is because they are of the same group even if they contacted the HIV from their mothers or through their sexual behaviours…..they are of the same adolescent group …so we encourage them to use the injectable methods so that they cannot forget” (ART Operational manager, female, 56 yrs.).

A smaller proportion of study participants described a situation in which they perceived female pALHIV and hALHIV as behaving differently in their uptake of contraception. For example, the views of one provider imply that female pALHIV and hALHIV may be different in terms of contraceptive uptake due to shyness to receive contraception on the part of female pALHIV: “They do tend to be different groups of people in the sense that the perinatally acquired HIV adolescents are often a little bit behind in their development by a year or two so they seem to be developing later. ...also they are shy to receive contraception” (Doctor, female, 49 yrs.).

Some providers reported being uncomfortable giving contraception to female pALHIV due to their perception that this sub-group of female ALHIV should not be sexually active. The impact of this practice on the differential uptake of contraceptives between pALHIV and hALHIV is capture in the response of this provider: “Sometimes you as the provider feel uncomfortable to give it to the perinatal ones because sometimes you think that they are not sexually active- you understand- that is your perception whereas with the other groups you will just give it ” (Nurse, female, 49 yrs.).

9.4.2 Provider competency and training

Although providers generally reported competence in the provision of short-acting contraceptive methods, they still generally emphasised low competence in LARC insertions and removals, with an increased potential risk of undesirable events in clients wishing to use LARC. A system-level provider discussed the complications accompanying IUD insertions within primary care: "We had a huge challenge very recently with regards to IUD insertion... because we had quite a lot of perforated uteri…in one clinic about seven …we then stopped the providers from providing and we are having a focus on training sessions and then we will start again" (Sub-district Area manager, female, 57 yrs.). A facility manager from a stand-alone youth clinic said about the competency of providers: "We have more experience with the injections and the pills because the ones like the implanon is a newly introduced contraceptive otherwise they are experience in all the other methods" (Facility manager, female, Age not given).

Lack of a wide-spread provider training model in newer contraceptive methods was frequently mentioned as a factor in provider competence in LARC provision within primary care. A female nurse from a general PHC clinic noted: "There is only one provider that is trained on the long-acting methods…I don't know why it is only one provider….there is only one provider who can put in the Implanon…..there is only one provider who can put in the IUCD" (Nurse, female, 43yr.).

Lack of familiarity with LARC among the few providers trained therein was also noted. As this provider noted at a stand-alone youth clinic, client preference for short-acting contraceptive methods over LARC was associated less hands-on-experience with the LARC methods: "We have less experience with IUD because we don't insert it because there are no clients who want it ..we have the theory of it but we don't have the practical because the client are not coming for it….then we will forget the skills" (Nurse, female, 30 yr.).

Contraceptive stockouts were also tied to provider expertise. One provider from a stand-alone youth clinic described the stockout of the IUD method in her clinic due to the lack of a provider skilled in the administration thereof:-"Well, the only information I have about that it was actually

the IUD- we didn't have it because there was no one who was trained to put it. I think that was 2 years ago, so we would write a referral letter to the clinic -day hospital- then if they want it they can go there and put it there because you can't really put in an IUD if you were not trained in doing so ….that is the only contraception that was not available" (Nurse, Female, 29 yrs.).

9.4.3 Challenges and recommendations for improving contraceptive services

Providers listed several challenges for targets and suggestions for improvement in the provision of contraception to female ALHIV, and data analysis indicates that most factors mentioned by respondents were infrastructural or systemic: provider-level factors, facility procedures, safety concerns, physical structure and limited contraceptive options, time pressure during consultations, and loss to follow-up; these also came up during the qualitative sections described above.

In addition to provider competence in the provision of contraception, LARC in particular, as is described in the previous sections, provider competence in adolescent-friendly services was also considered an important provider-level target for improving female ALHIV access to and use of contraception. Negative attitudes among certain providers also emerged as important provider-level barriers to be overcome to improve contraceptive access among this sub-group of adolescents. One ART adherence counselor said: "…those providers of HIV-positive children must know how to treat the children ….they must know that the children are very sensitive .... …and they still have denial of HIV-status….so when they meet a child they must just explain why I must give you this family planning …..they must not give a child any family planning because there are family planning that those on ARVs must not use like the implanon…. ……..Efivarenz and Tenofovir clash with implanon (Counselor, female, 43 yrs.)

As mentioned earlier, providers emphasized limited hours of operation at the clinics as a major clinic-level barrier to providing contraceptive services to female ALHIV Several providers suggested that placing reproductive health clinics in social spaces, such as shopping malls or train stations, might improve access to and uptake of contraception among female ALHIV."I have always thought that the city should have a clinic for reproductive health in a mall or in a train station because that is where you get some of them (female ALHIV)… because in Nyanga they have a reproductive clinic every time when they get off the train they just go to the clinic" (Nurse, female, 29 yrs.). Providers reported they are concerned with safety when providing extended hours service, despite their suggestion that this would be a good idea. A facility manager mentioned that "The other thing is safety - especially our facility is in a residential area. We would like to go extended hours so that we can ensure that they have access after schools and running up to six O'çlock ….because of the crime in the area and assault on the staff we actually have to close our facility at four O'çlock which is very sad" (Facility manager, female, Age not given)

The issue of time pressure during consultations for HIV care was also an important infrastructural and systemic challenge to the provision of HIV care and treatment for female ALHIV. While the role of time pressure in contraceptive service provision was not explicitly stated, broader narratives pertaining to time pressure in HIV clinics suggest it can significantly undermine the provision of integrated HIV services as well as the quality of contraceptive services delivered, as exemplified by the response from this provider at a standalone youth clinic: "City Health is pushing numbers, they just want statistics. I don't even think they care how we get those numbers. They are just pushing us to push numbers. At times it appears to us that they have lost a plus to care for quality it is just about quantity. Say for an example, there was a mandate that says that each and every clinician needs to see about 30 clients per day and they actually stated that you are supposed to spend less than 5 minutes with a patient. My question is… because of the age of the patients am dealing with and considering that these kids have social problems, If I pick up someone that really has a social problem, do you honestly believe I can spend 5 mins with that patient? It is not possible. So if you want me to spend 5 mins with a patient it means am not rendering quality services" (Nurse, female, 29 yrs.).

IDI data also suggest that the physical structure of a facility with respect to privacy was an important component of the challenges for targets in female ALHIV contraception. Providers at general primary health care clinics, in particular, reported privacy issues related to the physical layout of the facility, perhaps due to the implications of female ALHIV contact with older clients, notably stigma, during consultations for HIV and contraceptive services. One female provider noted: “The clinic is busy, there is lack of space and there is lack of kind of private space and sometimes we have to juggle up in the clinic rooms which makes talking about contraception very difficult when we are running the clubs - the clubs have to be run from the board rooms and sometimes that could make talking individually about contraception very difficult because you have got other people there. So yeah there are challenges just around private space” (Doctor, female, 49 yrs.).

Regarding model of care, a female physician at a general PHC clinic providing HIV services to all groups suggested having a separate space for ALHIV would be a good strategy to overcome the perceived stigma related to HIV and contraceptive care among female ALHIV: “There should be a separate corner for them where they know or room where there is no stigma from people seeing adolescents coming around. They know they go to that room ..is set up for them. I think that should be the best if there is budget” (Doctor, female,43 yrs.).

Providers talked about ALHIV limited contraceptive method choice; suggesting the need to expand contraceptive method choice for ALHIV. The quote from this provider at a stand-alone youth clinic sums up the responses of many interviewees on this issue: “Well! According to my understanding, if ever there is only two options out of the rest of the options that we have of contraceptives in this clinic where HIV positive clients cannot use the other methods, it means we are not giving them quite a lot of options. Say if they don’t want IUD, what else can they use? They can only use injectables and if they don’t want that too, what else is available for them? Nothing…..there is vaginal ring, spermicide….. I know in some NGOs clinics they do have these options. Some of our curious clients who have been to those clinics they would come here and

ask we would tell them we don’t have these options only because City of Cape Town cannot afford them” (Nurse, female, 29 yrs.).

10. Discussion and conclusions

This chapter highlights the key research findings and contextualises these findings within the existing literature on HIV and contraception services. The chapter also describes the implications of the research findings for contraception programs for ALHIV in urban townships in South Africa, as well as the relative strengths and limitations of the research design, recommendations for further research and concluding remarks.

10.1 Main findings and interpretations

This section synthesises the main findings by client outcomes as well as by influences on these outcomes based on the four-level socio-ecological model described in Chapter one. Here, the findings are compared and contrasted with other relevant studies. The in-depth qualitative interviews of providers explain in more detail the findings from the quantitative survey of female ALHIV.

10.1.1 Contraceptive uptake

Overall, a large proportion of female ALHIV (83.5%) was currently using modern methods of contraception, with an overall preponderance of injectable contraceptives (60%). The levels of modern contraceptive prevalence among sexually experienced female ALHIV population in this study (86.8%) are remarkably higher than the general population of sexually active adolescents derived from the 2016 SADHS data (60.4%) (National Department of Health., 2019). As highlighted in Chapter 3, reports from other sub-Saharan African countries have indicated a lower prevalence of current contraceptive use among ALHIV (Oliveras & Makumbi., 2013; Obare et al., 2010b). While the overall prevalence of current contraceptive use was extremely high, what was also very interesting was that contraceptive prevalence was high among both female hALHIV (81.8%) and pALHIV (87%). The high prevalence of the current use of modern contraceptives in this population of female ALHIV enrolled in HIV-related care and treatment services is promising

and underscores the remarkable progress made by South Africa in strengthening adolescent-friendly services across public-sector PHC clinics. The mix of methods reported among current contraceptive users in this study (Chapter 5) contrasts with the recent DHS data on the general population of sexually active adolescents in South Africa (40% condoms; 45% injectable contraceptives, the majority of whom were using injectable DMPA; 8% Implants; and 7% pills) (National Department of Health., 2019). Provider narratives validated the quantitative results, suggesting the preponderance of injectable contraceptives and, in particular injectable NET-EN, among ALHIV. Shedding light on the narratives of providers, it was clear that ALHIV's heavy reliance on injectable contraception is related to ALHIV clients being offered limited contraceptive options. Furthermore, providers discussed reasons for the high reliance of female ALHIV on injectable contraception, some of which are related to providers and others are related to female ALHIV. Key provider issues attributed to the high reliance of female ALHIV on injectable contraception included providers' limited technical skills in LARC insertion, perceived inefficacy of implantable contraceptives in the context of ART and perceived pill medication-related burden. Also, the qualitative data suggest that provider concerns about ALHIV complying with clinic visits is responsible for the greater on the two-monthly injectable contraceptive method (injectable NET-EN) noted among injectable contraceptive users in the quantitative data. Client issues relate to concerns expressed about other methods, such as rumours of contraceptive implant robberies and fears of IUD, including translocation and insertion procedures.

In Chapter 5, the analyses partly aimed to explore the contextual influences of contraceptive uptake among female ALHIV in urban townships in Western Cape. For female ALHIV, alcohol consumption was significantly more likely to be positively associated with current use of contraception methods than non-consumption, a finding consistent with a recent report on alcohol consumption and contraceptive uptake, particularly hormonal contraception, among young adults in the United States (Jones et al., 2019). It is possible that female ALHIV who consume alcohol decide to have access to contraception to avoid pregnancy and childbearing to continue engaging in substance use. The data on the somewhat unexpected positive association between alcohol consumption and contraceptive uptake suggests further research on this topic

among young people, including ALHIV, given the consistent findings in the literature that alcohol abstention increases contraceptive uptake (Hingson et al., 1990; Cooper., 2002; Hensel et al., 2011; Khadr et al., 2016). Similar to the findings from a South African study, the present study's results show that a later age of sexual debut predicted current contraceptive use among female ALHIV (Seutlwadi., 2012); suggesting interventions to delay sexual debut may promote contraceptive use among female ALHIV.

In Chapter 6, the association between the mode of HIV acquisition and contraceptive uptake among female ALHIV was further explored. It was hypothesised that there would be significant variation in contraceptive practices between hALHIV and pALHIV. Similar to findings in Chapter 5, the analyses in Chapter 6 found no significant variation in the receipt of contraceptive services and current contraceptive use by mode of HIV-acquisition after adjusting for potential confounders. Though providers' attempt to attribute pALHIV's shyness to receive contraception and providers' reluctance to provide them contraception to the relatively low utilization of contraception among female pALHIV are perceived self-reports, it was not clear from the qualitative data whether there are differences in contraceptive uptake between the two female ALHIV groups. However, some providers reported that they do not distinguish between female pALHIV and hALHIV in providing contraceptive services. The mixed findings on the mode of HIV acquisition and contraceptive uptake in the present study provide suggestions for future mixed-methods research with female ALHIV to address this phenomenon. Nevertheless, the qualitative interviews suggest that differentiated contraceptive care models based on the mode of HIV acquisition may be a useful approach to client-centred contraceptive care for pALHIV.

Furthermore, higher levels of perceived partner influence on contraceptive use were associated with current contraceptive use among female ALHIV. These findings align with the existing evidence that support from male partners can help increase contraceptive uptake among adolescents (Callegari et al., 2004; Lewis et al., 2013). In Chapter 9, we further explored the influences on female ALHIV contraceptive uptake. The quantitative data in this study further suggest that male partners, particularly older male partners, play an ambiguous role in female

ALHIV contraceptive uptake – some deterring contraceptive use and others promoting its use. The finding related to male partners' disapproval of contraceptive uptake among female ALHIV confirms that of an earlier study conducted among the general population of South Africa's adolescents (Pettifor et al., 2009).

The issue of hormonal contraception-related safety concerns specific to pALHIV also arises in quantitative data. The diversity of responses to the safety concerns of hormonal contraception, as highlighted in Chapter 7, may imply that female ALHIV are more concerned about the risk of hormonal contraceptive failures and HIV heterosexual transmission risk than ART efficacy and HIV-disease progression. Given that HIV infection alone does not preclude WLHIV from using any sub-type of hormonal contraception (Kourtis et al., 2016), it is important to acknowledge the safety of hormonal contraception in contraception counselling for WLHIV. In Chapter 5, we explored whether the perception of hormonal contraceptive-related risks specific to PLHIV predicted contraceptive use among female ALHIV. In the analysis, the perception of hormonal contraceptive-related risks specific to PLHIV was not associated with current contraceptive use. In Chapter 7, the association between the perception of hormonal contraceptive-related risks specific to PLHIV and contraceptive use was further explored, adjusting for potential confounders. It was hypothesised that female ALHIV that consider themselves at risk of hormonal contraceptive-related side effects would be less likely to use hormonal contraceptives compared to their peers that do not consider themselves to be at risk. The results in Chapter 7 validated those of Chapter 5 by showing female ALHIV who reported higher levels of perceived hormonal contraceptive-related risks specific to PLHIV were not significantly more likely to use no method at all or currently use barrier methods. Provider narratives that female ALHIV reliance on injectable contraception probably reflects perceived hormonal contraceptive-related risks did not strongly influence female ALHIV's contraceptive use. Alternatively, there remained limited contraceptive choices for female ALHIV. The link between clients' concerns about HIV-specific safety considerations relating to hormonal contraception and contraceptive decision-making or method choice has been documented (Imbuki et al., 2010; Todd et al., 2011). Therefore, future

studies should consider exploring the perspectives of female ALHIV on issues around contraceptive use and HIV-specific safety considerations related to hormonal contraception.

Also, the qualitative results from the present study suggest that providers' concerns about contraceptive failures when implants are used concomitantly with Efavirenz-based ART influenced the promotion of injectable contraception. Furthermore, the qualitative data from this dissertation validated other quantitative and qualitative studies that WLHIV's own concerns about physical side effects of hormonal contraception decrease their hormonal contraceptive uptake (Imbuki et al., 2010; Laher et al., 2010; Todd et al., 2011; Bengtson et al.,2013); the promotion of effective non-hormonal contraceptive methods, specifically condoms and IUDs, is vital to note for young women concerned with or experiencing the side effects of hormonal contraception. Nonetheless, the qualitative findings suggest that safer conception strategies for female ALHIV desiring pregnancy may be a relevant approach to reducing the HIV burden and requires further research.

Among the structural-level factors, female ALHIV's household socio-economic status appears as the most critical determinant of the current use of contraception. Compared to female ALHIV in the poorest household wealth tertile, female ALHIV from the middle or highest tertiles were significantly less likely to have used a contraceptive method currently. This finding contrasts with that of the only study that evaluated the association between poverty and sexual risk taking among ALHIV, which suggests no significant association between poverty and contraceptive use (Toska et al., 2015). Therefore, it is important for future studies to explore the association between poverty and contraception among ALHIV, as well as plausible explanations for the somewhat unexpected link between higher household socio-economic status and decreased uptake of contraception among ALHIV.

Finally, the research results in this dissertation offer insight into whether contraceptive uptake vary by models of HIV care, including stand-alone youth and general PHC clinics. In addition to hypothesising that contextual factors, including clinic model, would significantly influence female

ALHIV contraceptive behaviours and related outcomes, It was further hypothesised that female ALHIV at standalone youth clinics providing HIV services would be more likely to report contraceptive uptake compared to their peers at general PHC clinics. Across Chapters 5 and 8, female ALHIV at standalone youth clinics demonstrated similar current contraceptive use and receipt of contraceptive services as female ALHIV at general PHC clinics. One study conducted in Rwanda also found similarity in current contraceptive use between users and non-users of youth centres (Plautz & Meekers., 2003). The present study support those reports, suggesting that stand-alone clinics may not be an effective and efficient approach to promoting SHR service use among young people (Senderowitz 1997; Zuurmond et al., 2012). One could argue that the reason stand-alone youth clinics did not outperform the general PHC clinics on current ALHIV contraceptive use in the present study is the implementation of NAFCI in public-sector clinics throughout South Africa.

In Chapter 9, provider narratives were helpful in further establishing a range of contextual influences on female ALHIV contraceptive uptake, including individual, interpersonal and structural factors. On one hand, providers believed peers, parents, and child grants tend to dissuade female ALHIV from using contraception; on the other hand, facilitators of female ALHIV contraceptive use include the female ALHIV's own and parent fears of pregnancy, family desire for education completion, and peer influence and support groups. The findings on the individual, interpersonal and structural influences on female ALHIV contraceptive use, either as barriers or facilitators, also support the literature identified in Chapter 2 (Wood & Jewkes, 2006; Fallon., 2010; Hartman et al., 2013; Snyder et al., 2014; Chernick et al., 2015; Hagey et al., 2015; Rubin et al., 2016; Maly et al., 2017).

10.1.2 Inconsistent contraceptive use

In Chapters 5 and 9, multilevel influences on consistent contraceptive use among female ALHIV were explored. Quantitative and qualitative data suggest multiple levels of contextual influence affect female ALHIV's consistent contraceptive use. Female ALHIV in age-disparate partnerships

with age gaps of fewer than five years have increased likelihoods of both consistent use of condom alone and dual-method contraception. This finding probably reflects the result of asymmetrical male-female power relationship in contraceptive decision-making or even higher contraceptive decision-making power in favour of female ALHIV in age-disparate partnerships with age gaps fewer than five years. This aligns with reports from that of other studies (Ryan et al., 2008; Volpe et al., 2013). Furthermore, the late sexual debut was positively associated with consistent dual-method use. This is important additional information on dual-method contraception among female ALHIV, as there is a paucity of data on the link between sexual debut and consistent use of dual-method contraception among ALHIV.

In this study, consistent with Steffenson et al. (2011), female ALHIV reporting multiple sexual partnerships had diminished likelihoods of consistent condom use compared to their counterparts who did not report multiple sexual partnerships, although this previous study focused on the general population of adolescents in South Africa. Thus, this finding suggests that addressing the issue of multiple sexual partnerships could help promote contraception practices among female ALHIV. Also, quantitative results from this present study revealed a positive relationship between higher perceived partner influence on contraceptive use and consistent dual-method use, as another prior research has suggested (Kosugi et al., 2019). HIV programmes should thus highlight the importance of male partner involvement as a primary component of positive contraceptive behaviours of female ALHIV.

Providers perceived the issue of fertility concerns and physical side effects of hormonal contraception as barriers to consistent contraception use, although the particular methods of contraception were not explicit. WLHIV have uncertainties regarding their future health, and having children is considered to give hope for the future (Upton & Dolan., 2011). A qualitative study conducted in Malawi indicates that the strong values female pALHIV in HIV care placed on childbearing precluded them from complying with contraceptive use; many of these adolescents got pregnant to meet society's expectations and enhancing self-worth (Mwalabu et al., 2017). HIV-related fertility concerns and pregnancy intentions among female ALHIV must be addressed,

as they may have policy implications concerning educational interventions on fertility issues and safer conception in this young population of PLHIV.

Among the structural-level factors, female ALHIV's household socio-economic status and parental education appear as the most critical determinants of the current use of contraception. Quantitative data in this study revealed that female ALHIV in the middle or highest wealth tertiles of household wealth were significantly less likely to have used condoms consistently compared to female ALHIV in the poorest household wealth tertile. This somewhat unexpected finding warrants further research to clarify the relationship between household wealth status and contraceptive practice among ALHIV. The qualitative study revealed further some health service-related factors influencing female ALHIV contraception: providers widely perceived limited service hours and long wait times in the clinics as crucial health system barriers to the consistent use of contraception among female ALHIV. These findings confirm what has been documented in a previous study of the general population of adolescents and older women (Silumbwe et al., 2018). The issue of excessive wait times was perceived as frequent among female ALHIV attending clinics for HIV care and contraception on different days, suggesting that a provider-level integrated HIV–contraception care (i.e. a provider providing HIV and contraceptive services to an ALHIV in the same room) may prevent contraceptive discontinuation among ALHIV. Providers also mentioned the girl empowerment programme in some clinics in Western Cape as a great facilitator of contraceptive access among female ALHIV, and this intervention helps to justify the use of trained peer providers in enhancing adolescents' access to contraception.

10.1.3 Unmet need for contraception

Unmet need for contraception among sexually active female ALHIV (17.4%) was much lower than the rate derived from the recent SADHS data for sexually active women of that age (31.2%) (National Department of Health., 2019), and this underscores the importance of integration of HIV and contraceptive services at PHC clinics in Western Cape, South Africa. Part of the first study hypothesis (H1) was that multilevel characteristics would be significantly associated with

contraceptive-related outcomes, including the unmet need for contraception, among female ALHIV. This study revealed multilevel influences on unmet need for contraception among female ALHIV. Adjusted analyses demonstrated that age and duration of enrolment in the clinic were the individual determinants of unmet need for contraception among female ALHIV in this study, alongside adherence to ART; findings that have not been previously reported in the literature. Older age (18 – 19) was associated with lower reports of unmet need for contraception than young age (14 – 17), perhaps partly due to less negative reactions from providers when accessing contraceptive services, and the significantly higher proportion of older female ALHIV engaging in sex within the three months preceding the study survey than young female ALHIV (bivariate analysis not shown) could add to the understandings of the possible explanations for the negative association between older age and unmet need for contraception. Quantitative research in Uganda suggests that older pALHIV are more likely to use contraception at first sexual debut or currently use contraception probably, and higher sexual activities among older pALHIV is a possible explanation for the differential uptake in contraception by age (Birungi et al., 2009a); further supporting the finding from the present research. Providing client-centred contraceptive care to ALHIV may help to encourage the demand for contraception among young ALHIV. Unmet need for contraception also differed across strata of the length of enrolment in HIV care, and with unmet need for contraception significantly diminished with longer duration of enrolment in HIV care. It could be that longer duration of enrolment in HIV care leads female ALWH to practice contraception, presumably due to sufficient familiarity with service providers. Longitudinal contact of HIV care and treatment has been shown to have a profound positive impact on clients' HIV needs, as well as reproductive health needs (Myer et al., 2005).This important finding has implications for contraception policy and programming in HIV care for female adolescents and suggests the need for future research on this topic, given that none of the existing studies assessed duration of enrolment in HIV care and issues of contraceptive access or use. Female ALHIV who were not optimally adherent to ART were more likely to have an unmet need for contraception than their counterparts who were ART naïve; finding that is surprising. It was not clear from both the quantitative and qualitative data to deduce the probable explanations for the observed surprising relationship between ART adherence and unmet need for contraception,

and further mixed methods research could clarify the relationship between adherence and unmet need for contraception among female ALHIV in the present study.

In the analysis exploring the covariates that predicted female ALHIV's unmet need for contraception (Chapter 5), mode of HIV acquisition was not associated with unmet need for contraception. In Chapter 6, part of the aim of the analysis was to compare the unmet need for contraception between female hALHIV and pALHIV, after adjusting for potential confounders. It was also hypothesised that contraceptive need would vary significantly between hALHIV and pALHIV. Results from the analysis in Chapter 6 suggest that there were no differences in unmet need for contraception when comparing hALHIV and pALHIV; further supporting the finding in Chapter 5. Such lack of differential in the contraceptive behaviours of female hALHIV and pALHIV have been highlighted in the qualitative arm of this study (Chapter 9), and indeed the views of providers suggest that contraceptive practices and provision, as well as sexual behaviours, are similar between female hALHIV and pALHIV.

The present study has also demonstrated interesting relational determinants of unmet need for contraception among female ALHIV; namely around social networks. Quantitative data has demonstrated that female ALHIV who reported higher perceived peer influence on contraceptive use had decreased odds of unmet need for contraception compared to those who reported low perceived peer influence on contraceptive use. Qualitative data suggests peer social networks either dissuade or encourage female ALHIV to access and use contraception and peers' negative perspectives on the physical side effects of hormonal contraception, injectables, in particular, was one of the reasons for female ALHIV's contraceptive non-use that emerged from IDI with providers. As noted in Chapter 3, several studies in different contexts have documented the positive impact of peer social networks on access to and utilisation of contraception among the general population sample of adolescents (Adedimeji et al., 2008; Fallon et al., 2010; Ali et al., 2011; Feleke et al., 2013). The finding demonstrating that peer pressure dissuaded female ALHIV from contraceptive use has also been documented in a qualitative study of adolescents and providers in South Africa (Wood & Jewkes, 2006). Female ALHIV who reported no current sexual

partners had greater odds of unmet need for contraception than those in age-disparate partnerships with age gaps more than five years, potentially suggesting the absence of support from male partners. This finding could also partly be explained by the likelihood of women with no current sexual partners to have had infrequent or no sexual intercourse while not using any method of contraception. Data from DHS conducted in 52 developing countries during 2005-2014 indicated infrequent or no sex as a key reason for contraceptive non-use among sexually active women (Sedgh et al., 2016). Having a sexual partner may also be positively related to contraceptive uptake among female ALHIV; as the quantitative and qualitative data presented in chapter 5 and Chapter 9, respectively, demonstrated, partner support is attributable to contraceptive utilization. Also, higher levels of perceived partner influence on contraceptive use were associated with the report of diminished unmet need for contraception among female ALHIV (Chapter 5), further suggesting male partner involvement in contraceptive programmes for this population. The mixed findings regarding social networks and unmet need for female ALHHIV's contraception in this present study imply the need to embed the evaluation of social networks during female ALHIV's contraceptive consultation.

Contrary to the report from the only study examining the link between maternal education and ALHIV contraception (Birungi et al., 2011), the present study indicates that unmet needs for contraception tend to be lower among female ALHIV when a parent or primary caregiver has secondary or tertiary education. This suggests that if preventive service interventions targeting parents of ALHIV emphasised improving contraceptive information and counselling needs of their ALHIV, then a reduction in ALWH's unmet needs may be achieved. In Chapter 8, the analyses partly aimed to compare the unmet need for contraception by the model of HIV care, i.e. stand-alone youth clinics vs. general PHC clinics, after adjusting for potential confounders. The hypothesis was that female ALHIV at stand-alone youth clinics would have a lower unmet need for contraception compared to their counterparts at general PHC clinics. Similar to the finding with the model of HIV care and unmet need for contraception in Chapter 5, the analyses in Chapter 8 found no association between the model of HIV care and unmet need for contraception. These findings add to the existing literature reports that stand-alone youth clinics

are not more effective and efficient than general PHC clinics in terms of SRH services, suggesting no need for a policy change from the general PHC clinic model of HIV-related care and services to the stand-alone youth clinic model.

10.1.4 Unintended pregnancy

The data presented in Chapter 5 revealed a lower overall rate of unintended pregnancy (18.8%) than rates demonstrated in the data from both developed and developing settings; ranging from 74% to 83% (Elgalib et al., 2011; Kenny et al., 2012; Koenig et al., 2007; Obare et al., 2010a; Obare et al., 2012). Interestingly, the extent of unintended pregnancy in this study is similar to that of a larger study conducted among the general population of adolescents in Eastern Cape, South Africa (18%) (Christofides et al., 2014). A plausible explanation for the lower rate of unintended pregnancy in the Christofides et al's study (2014), as in the present study, is the high proportion of contraceptive users. Also, in Chapter 5, the influences on unintended pregnancy at multiple levels were explored among female ALHIV. Part of the hypothesis was that unintended pregnancy among female ALHIV is influenced by multilevel factors. Quantitative results identified some individual-level predictors of female ALHIV's unintended pregnancy, including having at least one living child, smoking, and duration of enrolment in HIV, after adjusting for all other factors. The relationship between unintended pregnancy and cigarette smoking, as well as the length of enrolment in HIV care among female ALHIV, has not been previously studied in PLHIV. The higher odds of unintended pregnancy among female ALHIV who smoked cigarettes compared to female ALHIV who did not is vital to note, as it may have policy implications concerning integrating behavioural intervention programmes into HIV and contraceptive services. Other studies also demonstrated increased odds of unintended pregnancy with cigarette smoking, although these studies were conducted in the general adolescent population (Ayoola et al., 2006; Adolescent substance use., 2011). The finding regarding the increased likelihood of unintended pregnancy with having a living child aligns with that of the quantitative research from Kenya reporting the increased likelihood of unintended pregnancy among female ALHIV who had biological children with their spouses (Birungi et al., 2011); however, the Kenyan study failed to provide the reasons

for the association. In Chapter 6, the link between the mode of HIV acquisition and unintended pregnancy was further explored. The results suggest that female pALHIV might have a higher risk of unintended pregnancy than female hALHIV. Furthermore, provider narratives on the lower rates of uptake of contraceptives in female pALHIV than female hALHIV provided evidence that the mode of HIV acquisition might influence unintended pregnancy in female ALHIV. To date, the link between the mode of HIV acquisition and unintended pregnancy has not been investigated. Therefore, further research is needed to shed light on this phenomenon.

In this study, female ALHIV reporting partners with unknown HIV status were less likely to classify pregnancy as unintended compared to their counterparts in serodiscordant relationships. One probable explanation is that female ALHIV in serodiscordant relationships may be reluctant to have unprotected sex with un-infected sexual partners because of the risk of HIV-transmission and may consider their pregnancies unintended. A qualitative study of couples in Uganda found that participants acknowledged partners' HIV status as a critical driver of unintended pregnancy, with women in serodiscordant relationships having increased unintended pregnancy (Grilo et al., 2018). This makes knowing partners' HIV status a potential target for intervention to prevent unintended pregnancy in PLHIV. The quantitative findings also suggest that parent-child communication does not lead to better contraception access/uptake, as evidenced by the positive association between perceived parent-child communication and unintended pregnancy. There is evidence that the characteristics of parent-child communication itself are key to its effectiveness over adolescents' reproductive outcomes (Rogers., 2017). Although the qualitative study suggests that parents/family also acted to support female ALHIV's contraceptive access and uptake, the empirical evidence to explain the communication characteristics is lacking. Given that the survey tool did not include questions on how parents discuss issues relating to contraception for ALHIV, understanding how parent-child communication occurs in the context of contraception for ALHIV may hold answers to promoting parent communication skills.

Female ALHIV in the highest household wealth group were more likely to report unintended pregnancy – the lower odds of current contraceptive use and consistent condom use may have impacted the increased risk odds of unintended pregnancy. The finding on the link between

household wealth status and unintended pregnancy is an essential issue for additional research since the only study testing for the influence of poverty on unintended pregnancy among ALHIV documented significant unintended pregnancies due to food insecurity (Nhamo et al., 2013). On the other hand, given that receipt of contraceptive counselling at health facilities was significantly associated with a higher rate of unintended pregnancy, strengthening the capacity of health care professionals on effective contraceptive counselling can further reduce contraceptive non-use as well as unintended pregnancy. Similar results were obtained by other studies concerning the link between unintended pregnancy and contraceptive counselling in clinical settings conducted in clinical settings (Winter et al., 1991; Kirby et al., 2010).

10.1.5 Client satisfaction, preferences and service quality perceptions

In Chapter 6, the association between mode of HIV acquisition and measures of contraceptive service delivery preferences was explored. Part of the fourth study hypothesis was that contraceptive service delivery preferences would vary significantly between female hALHIV and pALHIV. To the best of the PhD candidate's knowledge, no studies have evaluated the link between the mode of HIV acquisition and SRH service delivery preferences among ALHIV. Quantitative results suggested that pALHIV were significantly more likely to express a preference for female providers, younger providers and stand-alone youth clinics, but there was no significant difference in preference for provider continuity between hALHIV and pALHIV. The qualitative interviews offer further insight into the similarities and differences in service delivery preferences between hALHIV and pALHIV. In general, provider narratives suggested that pALHIV showed a greater preference for continuity of care with a particular provider than hALHIV. Such differential preference between hALHIV and pALHIV was linked to the length of enrolment in HIV care in the health facilities, and the attachment of pALHIV to providers, beginning at a young age when HIV care is initiated.

Provider views on female ALHIV's preferences for provider age are mixed. This is the result of differing provider attitudes. Most providers felt that preferences for provider age did not vary among hALHIV and pALHIV, and the perceived lack of differential preference for provider age was seen as stemming from the positive attitudes of providers rather than age. Regardless of ALHIV's mode of HIV acquisition, providers felt that some female ALHIV held a preference for younger providers – the judgemental attitude of older providers was mentioned frequently as a reason. Most providers mentioned pALHIV would feel more comfortable with a female provider during consultations for contraceptive care, perhaps because of shyness at revealing their body to a male provider. The issue of positive provider attitudes also figured highly in responses that there would unlikely be a preference for a provider of a particular/specific gender among female ALHIV.

In Chapter 8, the analyses compared client satisfaction and service quality between general PHC and stand-alone youth clinics. It was hypothesised that client satisfaction and service quality perceptions would be higher at stand-alone youth clinics compared to their peers at general PHC clinics. Results from the quantitative analyses presented in Chapter 8 suggest that stand-alone youth clinics did not outperform general PHC clinics with regard to client satisfaction and in terms of some service quality dimensions, such as client-staff interactions and information and communication. Conversely, the quantitative results indicate stand-alone youth clinics outperformed general PHC clinics in terms of providing counselling about all available contraceptive methods. Presenting qualitative data on the service quality construct in contraception programmes for ALHIV was helpful in explaining nuanced aspects of service quality across study clinics; yet, it is hard to compare and contrast service quality between the two groups of clinics because the majority of providers interviewed had no work experience in both groups of clinics.

Provider narratives indicate a mix of positive and negative provider attitudes toward female ALHIV seeking contraception. Similar experiences were reported in Hagey et al.'s qualitative study of healthcare providers' perceptions of female ALHIV contraceptive services (Hagey et al., 2015). Providers also described certain components of client-centred contraceptive care specific

to ALHIV, including method choice provision based on ART regimen, teen support clubs and the availability of HIV counsellors. For example, the HIV counsellors' role was highly valued as a facilitator of contraception for ALHIV, as well as in identifying which contraceptive provider would best suit a given client. Consistent with the findings from Hagey et al.'s (2015) study, judgemental attitudes about sexual activity abound, particularly towards young adolescents, and it appears deeply rooted in providers' attitude of equating contraceptive care-seeking with sexual promiscuity. Given the thoughts of providers about the physical structure of the clinics, it is not surprising that some providers breach the privacy of contraceptive care provision in clients seeking HIV care and treatment. Thus, the need for a physical clinic structure that could decrease the risk of privacy breaches during SRH care for adolescents should be considered.

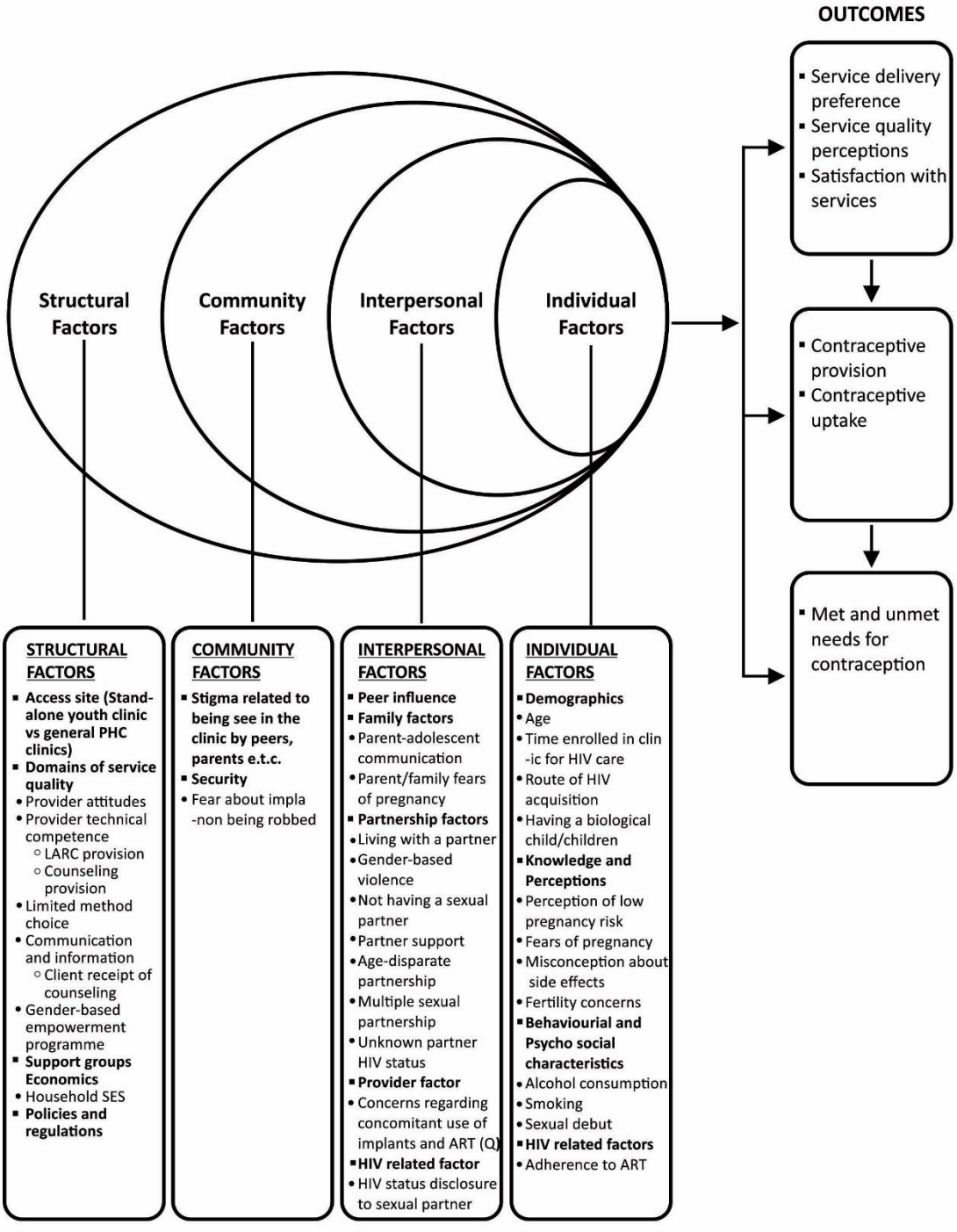
As highlighted in Chapter 2, provider competence and performance are values essential to providing quality services. The qualitative results suggest that heavy client reliance on injectable contraception and provider technical competence combined with explanations above about why other methods were not used or encouraged (e.g. views on HIV and Implanon) are strongly linked. Respondents also felt ALHIV access to LARC methods was restricted by providers' limited technical skills, a result found in a similar study conducted in another high HIV prevalence setting in sub-Saharan Africa (Nawaldda et al., 2011). While providers felt that all providers have competencies necessary to provide short-acting contraception services, low competence of the majority of providers in LARC insertions and removals was frequently cited. Additionally, providers equated less hands-on experience with LARC methods to poor performance among some providers with high technical competence. Finally, future, broader studies are needed to provide sufficient evidence on the effectiveness of stand-alone youth clinics in promoting HIV-related services for ALHIV, including contraception, given the limited literature on ALHIV client outcomes across the models of care evaluated in this dissertation.

10.2 Evolving conceptual framework

An important component of the overall aim of this research is to identify the contextual factors influencing female ALHIV's contraceptive provision and uptake. As has been highlighted in Chapter 3, there is very little research on the influences of contraception derived from the data on ALHIV. Thus, the conceptual framework for this research (Figure 1.3) was based mainly on the different elements derived from the literature on the general population of female adolescents and adults. Figure 10.1 displays the evolving conceptual framework of influences on female ALHIV contraceptive service delivery and utilisation, which incorporates different factors, grouped into four contextual layers, derived from the data collected from both providers and female ALHIV included in this research, as well as the sparse literature on contraception among ALHIV. At the individual level, the quantitative data goes beyond the factors documented in the literature on ALHIV and it suggests that the duration of enrollment for HIV care in the clinic and adherence to ART impact on unmet need for contraception; that cigarette smoking, having a biological child/children and duration of enrollment in the clinic influences unintended pregnancy; and that alcohol consumption and timing of sexual debut impact on contraceptive uptake and consistency. Also, the qualitative data shows that fears of pregnancy and fertility concerns impact on contraceptive use among female ALHIV. New relational or interpersonal determinants emerged which have not been previously documented in the literature regarding measures of ALHIV's contraception; namely around, family, partnership and provider factors. Specifically, the quantitative findings suggest that peer and partner support impact on unmet needs for contraception; that contraceptive use or consistency is also impacted by partner support, age-disparate partnership and sexual partnership status; and that unintended pregnancy is impacted by parent-adolescent child and awareness of a partner's HIV status. The qualitative data, in turn, provides new information on how peer social networks, parent fears about pregnancy and concerns for ALHIV's education completion, partner support, and provider concerns about the efficacy of Implanon when used with ART play a role in access to and uptake of contraception for female ALHIV. At the community level, the qualitative data provide new evidence of a link between Implanon uptake and concerns about personal security. Lastly, the conceptual framework introduces new structural determinants of ALHIV's contraception outcomes which

were not documented in the literature on ALHIV. Specifically, the effects of household socioeconomic status and gender-based empowerment on ALHIV client outcomes, including contraceptive uptake, contraceptive consistency, or unintended pregnancy; and the impact of the receipt of contraceptive counselling on unintended pregnancy.

Figure 10.1 Evolving conceptual framework



10.3 Limitations

A mixed methods research design offered information-rich data to answer the research questions guiding this thesis. However, both quantitative and qualitative data methodologies had some potential limitations. These constraints should be considered in terms of interpreting the findings resulting from this research.

Quantitative data

The quantitative data has some limitations. First, the sample size was drawn based on the 2003 SADHS before the results of the 2016 SADHS survey were available. Though the 2016 SADHS survey would be more relevant for the time data was collected, the fact that all eligible female ALHIV retained in care at the study clinics were included in the study suggest that the precision in the estimates of the parameters of interest are reliable. The issue of generalization of research findings from quantitative data derived from a non-probability sampling technique is also a limitation. Nevertheless, the survey results are likely to adequately represent the views and experiences of female ALWH in the study setting, given the high participation rate (95.9%) of female ALHIV retained in care at the study facilities. Furthermore, the lack of probability sampling of study sub-districts and facilities could have introduced selection bias as female ALHIV in the high HIV volume sub-districts/facilities selected for this research may have different experiences and behaviours than those at the low volume HIV sub-districts/facilities excluded from this research. Additionally, the unavailability of data on the demographic profiles of potentially eligible participants not retained in care for comparison with those of the participants included in the data analysis is also another data limitation. Given that clients were not randomly allocated to the two broad categories of clinic models (standalone youth and general PHC clinics), there was the possibility of

Cross-sectional studies by design are unable to reliably provide information on cause and effect. Nevertheless, findings regarding associations among different variables will help generate causal hypotheses that can then be investigated further if cause-and-effect relationships are needed. Also, there was a possibility of recall bias on the part of the respondents in terms of questions on

earlier reference periods, such as responses relating to contraceptive use consistency – for which the time frame extends up to 3 months or beyond. Regarding the assessment of recall bias relating to variables with responses on earlier reference periods, the candidate considered the risk to be low because there was no systematic missingness or unexpected pattern in response. The interviewer-administered mode of questionnaire administration for sensitive topics may have resulted in social desirability and non-response biases, particularly for sensitive questions. Attempts to reduce this included the administration of the questionnaire by trained fieldworkers with similar gender, racial and cultural. Also, a set of questions were used to evaluate the mode of HIV acquisition (hALHIV vs pALHIV) to allow for within-interview verification and eliminate misclassification (see Appendix 4: items 203-204).

The quantitative data was insufficient to determine the relationships between clinic model and some service quality dimensions, including technical competence, structure and facility, and patient-centeredness between the two clinic models of HIV care. However, the qualitative data helped to provide insights into the quality mentioned above. The quantitative data also preclude information on the particular hormonal contraceptive that was associated with HIV-specific safety concerns. The fact that the sample size of the quantitative study was insufficient for multilevel regression modelling further points to a limitation of the quantitative data. Another quantitative data limitation relates to the exclusion of CD4 cell count from the final data analysis because more than 20% of its values were missing. As a result, information on the relationship between CD4 cell count and client outcomes is lost. Some variables may also have been measured with error. For example, contraceptive self-efficacy was assessed with a single item comprising four sub-items instead of 18-items in the original scale to avoid questionnaire burden. Future research would help to address these data limitations relating to scale modification.

Qualitative data

The data source for the qualitative component could have a meaningful impact on the study findings. The exclusion of female ALHIV from the qualitative interviews about their experiences in a healthcare setting is a limitation as some aspects of their life experiences of contraception

care processes and the outcome could go undocumented. Therefore, the qualitative findings are susceptible to provider biases. Recruiting equal number of IDI participants from both types of service delivery models was not feasible because there were only two standalone youth clinics providing HIV services in the study setting. Thus, a higher number of participants were recruited from the general PHC clinics providing HIV services to all age groups, and this may mean biases in information. The majority of service delivery-level providers interviewed (16 out of 17 service delivery-level providers) only had work experience with the general PHC clinics. As a result, this further curtailed the analytic potential of the qualitative data by clinic type.

Finally, researcher worldview and background shape the findings and conclusions from qualitative research. The qualitative findings from this research may have been limited by the influence of the candidate's professional familiarity or experience with the research phenomena. However, a thorough review of the entire data analysis process by the research supervisors may have contributed to explicating the effect of the candidate's lens of experience on the credibility of the findings.

10.4 Strengths

The mixed-method design of this thesis provided a platform for integrating quantitative and qualitative data to elucidate comprehensive information. For example, as noted above, the quantitative data was inadequate to elucidate the factors determining contraceptive method choice. However, emerging themes from the qualitative findings helped to explain the reasons for female ALHIV heavy or low reliance on specific contraceptive methods. Quantitative methods, on the other hand, allowed contextualization of hormonal contraceptive-related safety considerations and contraceptive method use among female ALHIV, which was impossible with the qualitative method because respondents declined knowledge of the research phenomenon.

Purposive variable selection approach helped reduce a large number of the initial set of covariates in this study to an order of magnitude relative to the number of outcome events in

the regression models, which therefore reduced the risk of over-adjustment of variables included in the multivariate regression models. Additionally, the approaches to confounders' identification, as noted in Chapter 3, helped limit the potential for unmeasured confounders in the regression models exploring the relationship between exposure and outcome. Finally, another strength of this thesis is the diversity of the qualitative interview respondents, which allowed the research questions to be addressed from various perspectives.

10.5 Recommendations and policy implications

In addition to the recommendations described by providers above (see Chapter 9 sub-section 9.4.3), this thesis points to several recommendations and policy implications.

10.5.1 Ecological approaches to promoting female ALHIV contraception

The findings reported from both the quantitative and qualitative research in this thesis underscore the need for programme planners and policy implementers to apply multi-level approaches to contraception-related programmes and policy for female ALHIV. Furthermore, advancing strides towards a multi-level approach to female ALHIV contraception would allow for more targeted interventions for this subgroup of vulnerable adolescents.

10.5.2 Strengthening the capacity of PHC providers on LARC methods

In the context of low LARC methods provision for female ALHIV, explicitly underscored by the lack of PHC providers' technical skills, provider competency in LARC provision is crucial to ensuring a high level of LARC uptake. LARC methods are the ideal contraceptive methods of

choice for female ALWH, because they provide a higher level of couple years of protection and, therefore eliminate the need for regular adherence or follow-up for effectiveness as well as lessen pill burden (Kourtis et al., 2016). Beyond sound training, providers' understanding of implantable contraception provision in the context of HIV is essential. The development of specific practice guidelines for the use of contraceptive implants in WLHIV, including adolescents, can serve as an aid to determine the appropriateness of contraceptive implants for a particular female ALHIV. The fact that LARC as a method of contraception is not usually the method of choice by adolescents with HIV needs to be examined by providers as to whether to and how to promote it as a serious option given that LARC eliminate the need for frequent clinic visits.

10.5.3 Interventions to promote a wide range of contraception options

As documented above, substantial evidence suggests that female ALHIV choice of contraception is restricted. Given that HIV-infection alone does not preclude the use of any contraceptive method (Kourtis et al., 2016), it might be worthwhile to promote evidence-based strategies that would expand contraceptive options for female adolescents in HIV care at the PHC settings. In particular, developing a technical manual that focuses on the appropriateness and concerns regarding each contraceptive method for female ALHIV may be vital. As some of the previous results sections demonstrate low uptake and utilization of dual-method contraception among female ALHIV, it is essential for programmers to orient service providers to recommend dual-method contraception for female ALHIV.

10.5.4 Consider the particular needs of female ALHIV

Data from this study show that some female pALHIV have specific needs, including the preference for young providers, female providers, and clinician continuity of care. Furthermore, there is also evidence that female pALHIV have developmental issues. Given the preferences mentioned

above, programmes and policies should certainly consider age and gender diversity among providers of HIV care for adolescents. Also, there is a need to promote continuity of care with a particular clinician of choice. To the extent possible, providers should understand the cognitive abilities of female pALHIV and offer support in developing aspects of higher cognition on reproductive health issues. Furthermore, the qualitative data suggest that clinic hours need to be synced with school schedules so that female ALHIV can attend the clinic at the end of the school day.

10.5.5 Making PHC services more adolescent-friendly

Providers' suggestions on overcoming the challenges to contraceptive service provision and utilization, as noted in sub-section 9.4.3, can guide initiatives to ensure PHC services are more adolescent-friendly. Specifically, the NAFCI policy documents could be reviewed to include interventions that are specific to ALHIV. Both the quantitative and qualitative data suggest that mainstreaming adolescent-friendly health services in a separate space in existing facilities seems to be a more appropriate way to meet the SRH needs of female ALWH. This is further validated by the evidence that adolescents prioritise service quality over stand-alone youth clinic model as an essential characteristic they consider in choosing where to receive reproductive health services.

10.5.6 Encourage steps to avoid misperceptions about contraceptives

The issue of contraceptive safety concerns, in particular, HIV specific safety concerns, underscores the need to encourage initiatives to address the concerns over the safety of specific hormonal contraception for PLHIV. The preponderance of evidence at present indicates that HIV-positive populations can use any hormonal contraceptive method without concerns for increased risk of HIV acquisition, transmission and disease progression (Kourtis et al., 2016). Thus, providers

should discuss these concerns as early as possible when recommending hormonal contraception for ALWH. Myths and misconceptions also come to the forefront of constraints regarding contraceptive use among adolescents. Initiatives to promote uptake and utilization of contraception among adolescents, including ALHIV, should include approaches to address the perceptions around myths and misconceptions about contraceptives on an ongoing basis.

10.6 Suggested areas for further research

The findings and some limitations of this study speak to a need for further research. First, it might be worthwhile for future research to consider a longitudinal study design which will allow for the measurement of behavioural trends over time. This design, coupled with multimethod qualitative research exploring female ALHIV perspectives, could help to elucidate the processes involved in the changes in contraceptive behaviours of female ALHIV. Second, more extensive studies are needed to adequately address the best service delivery model for female ALHIV, given the insufficient data to evaluate the relationship between clinic model of care and some measures of contraceptive service quality.

Studies on the relationship between contraceptive method use and hormonal contraceptive-related safety concerns specific to PLHIV would benefit from a longitudinal design with large population-based sample size. Also, examining the relationship between each of the constructs of hormonal contraceptive-related safety concerns specific to PLHIV (e.g., HIV disease progression, drug interactions, contraceptive failure) and the particular contraceptive method use would allow for the identification of which of the components of hormonal contraceptive-related safety concerns specific to PLHIV impact on contraceptive method use among ALHIV. Further work on the relationship between immune status (e.g. CD4 count, viral load) and contraceptive behaviours among female ALHIV is also needed, given that, in addition to being largely understudied, there is no clear relationship between ALHIV immune status and SRH outcomes. Finally, the interesting findings regarding partner influence, socio-economic influences and the meaning of “unmet needs” for female ALHIV beg deeper analysis in the future.

10.7 Conclusions

The findings from this dissertation suggest that factors at the individual, relational, community and structural levels impact female ALHIV's access to and utilisation of contraception; highlighting the need for SRH programmes to continually address the contextual influences of contraceptive behaviours of ALHIV. Potential risk-reducing interventions, such as a client-centred approach to contraceptive care, may help to reduce pALHIV's risk of unintended pregnancies. Though the thesis lack information on the particular hormonal method associated with HIV-specific safety concerns, there is evidence suggesting that the concern about HIV-specific hormonal contraceptive-related risks does not impact hormonal contraceptive uptake among ALHIV. Finally, the thesis supports mainstreaming AFS within public sector facilities.

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APPENDICES

Appendix 1: Literature search strategy

Studies and conference proceedings published between June 1981 (since the first report of HIV in humans) and October 2017 were identified using databases such as Scopus, Web of Science, EBSCO (via Academic Search Premier, Africa-Wide Information, CINAHL, ERIC, PsycINFO and Health Source: Nursing/Academic Edition) and PubMed via Medline. Additional searches were conducted using Google Scholar. Combinations of the following search terms were used: HIV, HIV-infected, HIV-positive, acquired immune deficiency syndrome, AIDS, contraception, family planning, birth control, adolescent, teenager, youth, young adult and women. The bibliographies of the relevant articles were also examined.

Appendix 2: (isiXhosa): Parent/legal guardian consent form: adolescent and pregnancy prevention study exit survey (uxwebhu lemvume lo mzali/mgcini ngokwasemthethweni)

PARTICIPANT ID NUMBER: ……**.DATE**……

ISAZISI SOMTHATHI-NXAXHEBA:……..UMHLA…….

Investigator's name: Biodun Olagbuji **Phone:** 0717243901

Igama lomphandi: Biodun Olagbuji

Department: Women's Health Research Unit, School of Public Health and Family Medicine, University of Cape Town.

Introduction

isiqalo

- ❖ I am student at the University of Cape Town. I am requesting your permission to allow your daughter**/ward** take part in a research study. I am doing this research for the PhD degree.
- Ndingumfundi kwi-Dyunivesithi yase Kapa. Ndicela imvume yakho yokuvumela intombi yakho/i**wadi** ithabathe inxaxheba kuphando. Oluphando ndilenzela izifundo zam zesidanga se PhD

❖ Your daughter**/ward** is being asked to participate in a research study on pregnancy prevention. This study does not involve drawing blood from your child or giving her medications.

- Intombi yakho**/iwadi** iyacelwa ukuba ithabathe inxaxheba kuphando olumalunga nokunqanda ukukhulelwa. Oluphando aludibenanga nokutsalwa kwegazi kumntwana wakho okanye anikwe amachiza.

❖ She was identified as a possible participant because she is within the age group (14 – 19 years) of interest to this research.

- Utyunjwe njengomthathi-nxaxheba kuba ekwiqela leminyaka ephakhathi kwe(14-19 yeminyaka)

❖ We ask that you read this form, attached information sheet, and ask any questions that you may have before allowing your daughter/**ward** to participate in the research study.

- Sicela ukuba ufunde elixwebhu, uxwebhu lolwazi elidityaniswe apha, kwaye ubuze nayiphina imibuzo onganayo phambi kokuba uvumele intombi yakho/**iwadi** ithabathe inxaxheba koluphando.

Purpose of Study

Injongo yoluphando

❖ The purpose of this research is to better understand issues related to pregnancy prevention (including birth control/contraception) among young girls within the age group (14 – 19 years) of interest to this research.

- Injongo yoluphando kukufuna ukuqonda ngcono malunga nemiba enxulumelene kucwangciso/ukusetyenziswa kocwangciso ngamantombazana aselula abakwiminyaka ye 14-19 ubudala.Uphando olunomdla kubo

❖ Ultimately, the findings of this research would help to increase our understanding of the ways to improve access to contraceptive services.

- Ekugqibeleni, iziphumo zoluphando zizakunceda ekunyuseni izinga lokuqonda iindlela zokuphucula ukufumaneka kweenkonzo zocwangciso.

Description of the Study Procedures

Ingcaciso yemigaqo yoluphando

❖ If you agree on your child**/ward's** participation in the research study, she will be asked to provide answers to some questions about birth control services in the clinic.

- Ukuba uyavuma ukuba umntwana wakho/**iwadi** ithabathe inxaxheba koluphando, uzakucelwa ukuba asinike iimpendulo kweminye iimibuzo malunga neenkonzo zocwangciso ekliniki.

❖ The interview will take place in a comfortable location in the clinic where her privacy can be assured.

- Udliwano-ndlebe luyakuqhutywa kwindawo ekhululekileyo apha ekliniki nalapho siyakuqinisekisa ukuba isecaleni.

❖ The interview questions will be interviewer-administered.

- Imibuzo yodliwani-ndlebe iyakubuzwa ngumbhexeshi wodliwano-ndlebe

❖ We aim for an interview that will last approximately 40-45 minutes.

- Sijonge ekubeni ukuba udliwano-ndlebe luthabathe into epha kwi 40-45 yemizuzu.

❖ The information shared during the interview will **be** kept confidential, and only key members of the research team will have access to it. The information cannot be shared with the parent.

- Ulwazi owabelene ngalo kudliwano-ndlebe luyakugcinwa luyimfihlelo, kwaye ngamalungu ophando aphambili odwa azakufikelela kulo. Ulwazi alusayi kwabelwana nalo nomzali.

Risks/Discomforts of Being in this Study

Izichenge/Ukungaziva ukhululekilei xa ukuphando

❖ There are no major risks to your child**/ward.**

- Azikho izichenge ezikhulu kumntwana wakho**/iwadi**

❖ She may feel uncomfortable talking about her personal life. She does not have to answer any question that may make her feel uncomfortable.

- Ngahle angazive engakhululekanga ngokuthetha ngempilo yakhe. Akanyazelekanga ukuphendula nawuphina umbuzo onokuthi umenze azive engakhululekanga.

❖ We will offer counselling for participants that feel the interview made them uncomfortable.

- Siyakubanika iingcebiso abathathi-nxaxheba abathe baziva bengakhulekanga ngenxa yodliwani-ndlebe.

Benefits of Being in the Study

Inzuzo ngokuthatha inxaxheba

❖ There is no direct benefit to your child/**ward,** but her involvement is likely to assist us to know more about how to tailor birth control services to meet the needs of young women.

- Akukho nzuzo egqole ngqo kumntwana wakho**/iwadi**, kodwa ubukho bakhe kungasinceda ekwazini nzulu ngeenkozo zocwangciso ukuhlangabezana neemfuno zabafazi abaselula.

Confidentiality

Imfihlelo

❖ The interview with your child/ward is confidential and the only thing that will be disclosed is any form of maltreatment (including physical ill-treatment, emotional maltreatment, sexual abuse or neglect), but this will be reported to the social development department, a child welfare agency, or a police official in terms of legislation.

- Udliwani-ndlebe nomtwana wakho/**iwadi** luyimfihlelo kwaye eyonanto iyakubangazwa kuxa kukho ukuhlukunyezwa(kuquka ukuhlukunyezwa ngokwasemzimbeni, emoyeni, ngokwesini okanye ukungakhathalelwa),kodwa kuyakuxelwa kwisebe lezoluntu, i-arhente ejongene nemfuno zabantwana, okanye ipolisa njengoko umthetho usitsho

❖ If your child/ward tells us that she is experiencing some form of violence or maltreatment (including physical ill-treatment, emotional maltreatment, sexual abuse or neglect) or if a research staff reasonably suspects violence or maltreatment, and that this has not been reported to a relevant agency, we are required by law to report this to a child protection agency. Someone will then investigate and see what needs to be done to keep your child/ward safe. Your daughter's confidentiality will be protected and we will provide counselling and manage expectations honestly. These actions are necessary to protect you and your child.

- Ukubangaba umntwana wakho/iwadi usixelela ukuba ebeke wadibana nobundlobongela okanye ukungaphathwa kakuhle(kuquka ukungaphathwa kakuhle emzimbeni,emoyeni,ngesini okanye ukungakhathalelwa) okanye ukuba umqeshwa wophando uhlanela ubundlobongela okanye impatho embi, kwaye akuzange kuxelwe kwi arhente ezingqamane noku, siyagunyaziswa ngumthetho ukuba sikuxele oku kwi arhente ezijongene nokukhuselwa kwabantwana.Ukhona umntu ozakuphanda abone ukuba yintoni na enokwenziwa ukugcina umtwana/iwadi ikhuselekile. Imfihlelo yomntwana wakho iyakukhuselwa kwaye uyakucetyiswa ngendlela enyanisekileyo. Lamanyathelo ayafuneka ukukhusela wena nomntwana wakho.

❖ All the documents and records of this study will not be available to anyone outside the research team.

- Onke amaxwebhu noko kushicelelweyo akusayi kufumaneka nakubani na ongaphandle kwiqela loluphando

❖ Research documents and records will be kept in a locked file, and all electronic information will be coded and secured using a password protected file.

- Amaxwebhu ophando nook kushicelelweyo ayakugcinwa eluvalelweni, kwaye lonke ulwazi locwephesho luyakukhuselwa ngenombolo yokuvula.

❖ Once we have completed the study and written the results, all study documents will be destroyed.

- Xa uphando lugqityiwe kwaye neziphumo zibhaliwe, onke amaxwebhu ophando ayakutshatyalaliswa.

Reimbursement

Imbuyekezo

❖ Your daughter/**ward** will receive a light refreshment on completion of the interview.

- Intombi yakho/**iwadi** iyakunikwa amaqebengwana alula akugqiba udliwano-ndlebe

Right to Refuse or Withdraw

Igunya lokungavumi okanye urhoxe

❖ The decision to involve your daughter in this study is entirely up to you and your child. It is entirely voluntary.

- Isigqibo sokubandakanya intombi yakho koluphando sixhomekeke kuwe nentombi yakho. Niyazikhethela.

❖ If your child is uncomfortable about any of the interview questions she can choose not to answer or participate in that part of the question.

- Ukuba umntwana wakho uziva engakhululekanga malunga nayiphina imibuzo yodliwano-ndlebe unakho ukukhetha ukungaphenduli okanye angathathi inxaxheba kulombuzo.

❖ Your daughter has the right to withdraw from the interview at any time during the interview process.

- Intombi yakho inalo igunya lokurhoxa kudliwano-ndlebe nakweliphina ixesha kudliwano-ndlebe.

❖ There will be no penalty if your daughter decides to quit at any time during the interview

- Akusayi kubakho isohlwayo ukuba intombi igqibe ekubekeni phantsi nangaliphi ixesha ukudliwano-ndlebe

❖ Whether your daughter participates or not she will still get the same care as usual at the clinic.

- Ukuba intombi yakho ithe yathabatha inxaxheba okanye akayithabatha uhleli ezakufumana lamphatho aqhelene nayo ekliniki.

Right to Ask Questions and Report Concerns

Igunya lokubuza imibuzo nokuxela iinxalabo

❖ You have the right to ask any questions in relation to this research study, but the information your child has provided cannot be shared with you.

- Unalo igunya lokubuza nayiphina imibuzo enxulumene noluphando, kodwa ulwazi ethe intombi yakho yasinika lona asisayikwabelana nawe ngalo.

❖ If you have any questions about this research study, you can contact me at 0717243901.

- Ukuba unemibuzo malunga noluphando, unganxibelelana nam apha: 0717243901

❖ If your daughter has any problem or concern that occurs as a result of her participation in the research study, you can contact me at 0717243901.

- Ukuba intombi yakho iinazo naziphina iingxaki okanye iinxalabo ezithe zavela ngenxa yokuthatha inxaxheba koluphando, unakho ukunxibelelana nam apha: 0717243901

❖ If you have any concern about your daughter's right as a research participant that have not been adequately address by the research team, you can contact me at 0717243901 or report

to Human Research Ethics Committee at the Faculty of Health Sciences University of Cape Town at +27214066346

- Ukuba unenxalabo malunga namagunya omtwana wakho njengomthathi-nxaxheba koluphando athe akaphenduleka ngendlela, unganxibelelana nam apha 0717243901 okanye uxelele I- Komiti Yophando Yoluntu kwi Candelo lwe Zempilo kwi Dyunivesiti yase Kapa apha+27214066346

Consent

Imvume

- ❖ Your signature/thumbprint below confirms that you have agreed to allow your daughter participates in the research study, and that you have read and understood the information provided in this form and information sheet. You will be given a signed/thumb printed copy of this form to keep. The lead researcher will keep a copy.

- Umtyikityo wakho/ubhontsi ungqina ukuba uvumile ukuba intombi yakho ithabathe inxaxheba koluphando, kwaye ukufundile waqondisisa ulwazi olufumenaka kwelixwebhu. Uzakunikwa i-kopi etyikityiweyo/enobhontsi yelixwebhu. Umphandi oyintloko uzakugcina i-kopi.

Biodun Olagbuji (Lead Researcher)
Biodun Olagbuji (Umphandi Oyintloko)
Doctoral Candidate, School of Public Health
Efundela Ubugqirha, kwi-Skolo se Mpilo
University of Cape Town
Mobile: 0717243901
E-mail: biodun_olagbuji@yahoo.com

Signature/thumbprint of parent/guardian…… Date……..

Umtyikityo/ubhontsi womzali/mgcini……Umhla…….

Signature of research staff…… Date……..

Umtyikityo womqeshwa wophando……..Umhla…….

Appendix 3: (Afrikaans): Parent/legal guardian consent form to allow child's participation in a research ouer / voog toestemming vorm om kinderdeelname in 'n ondersoek toelaat.

PARTICIPANT ID NUMBER: …….DATE…….

DEELNEMER ID NOMMER……DATUM…….

Investigator's name: Biodun Olagbuji

Department: Women's Health Research Unit, School of Public Health and Family Medicine, University of Cape Town.

Phone: 0717243901

Introduction

- ❖ I am student at the University of Cape Town. I am requesting your permission to allow your daughter**/ward** take part in a research study. I am doing this research for the PhD degree.
- ❖ Your daughter**/ward** is being asked to participate in a research study on pregnancy prevention. This study does not involve drawing blood from your child or giving her medications.
- ❖ She was identified as a possible participant because she is within the age group (14 – 19 years) of interest to this research.
- ❖ We ask that you read this form, attached information sheet, and ask any questions that you may have before allowing your daughter/**ward** to participate in the research study.

Inleiding

- Ek is n student aan die Universiteit van Kaapstad. Ek vra u toestemming om toe te laat u dogter / saal aan 'n navorsingstudie deel neem. Ek doen hierdie navorsing vir die PhD-graad.
- U dogter / saal sal gevra om deel te neem aan 'n navorsingstudie oor geboortebeperking. Hierdie studie behels nie om bloed te trek uit u kind of gee haar medikasie.

- Sy is geïdentifiseer as 'n moontlike deelnemer, want sy is in die ouderdomsgroep (14-19 jaar) wat in hierdie navorsing belang stel.
- Ons vra dat u hierdie vorm, aangeheg inligtingsblad lees, en enige vrae wat u mag hê te vra voordat u dogter /saal om deel te neem in die navorsingstudie.

Purpose of Study

- ❖ The purpose of this research is to better understand issues related to pregnancy prevention (including birth control/contraception) among young girls within the age group (14 – 19 years) of interest to this research.
- ❖ Ultimately, the findings of this research would help to increase our understanding of the ways to improve access to contraceptive services.

Doel van studie

- Die doel van hierdie navorsing is om kwessies wat verband hou met geboortebeperking / kontrasepsie gebruik onder jong meisies van 14-19 jare oud wat belang is vir hierdie navorsing.
- Uiteindelik sal die bevindinge van die navorsing te help om ons begrip van die maniere om toegang tot voorbehoedmiddels dienste te verbeter verhoog.

Description of the Study Procedures

- ❖ If you agree on your child**/ward's** participation in the research study, she will be asked to provide answers to some questions about birth control services in the clinic.
- ❖ The interview will take place in a comfortable location in the clinic where her privacy can be assured.
- ❖ The interview questions will be interviewer-administered.
- ❖ We aim for an interview that will last approximately 40-45 minutes.

❖ The information shared during the interview will **be** kept confidential, and only key members of the research team will have access to it. The information cannot be shared with the parent.

Beskrywing van die studie prosedures

- As u saamstem oor deelname van u kind /saal in die navorsingstudie, sal sy gevra word om antwoorde op 'n paar vrae oor die geboorte beheer dienste in die kliniek verskaf.
- Die onderhoud sal plaasvind in 'n gemaklike plek in die kliniek waar haar privaatheid kan verseker wees.
- Die onderhoud vrae sal-onderhoudvoerder geadministreer word.
- Ons streef na 'n onderhoud wat ongeveer 40-45 minute sal duur.
- Die inligting gedeel tydens die onderhoud sal vertroulik hanteer word en slegs die belangrikste lede van die navorsingspan sal toegang daartoe het. Die inligting kan nie gedeel word met die ouer.

Risks/Discomforts of Being in this Study

❖ There are no major risks to your child**/ward.**

❖ She may feel uncomfortable talking about her personal life. She does not have to answer any question that may make her feel uncomfortable.

❖ We will offer counselling for participants that feel the interview made them uncomfortable.

Risiko's / ongemak daarvan om in hierdie studie

- Daar is nie 'n groot risiko's vir u kind /saal.
- Sy kan ongemaklik voel as sy praat oor haar persoonlike lewe. Sy hoef nie enige vraag wat mag haar ongemaklik laat voel beantwoord.
- Ons bied berading vir deelnemers wat die onderhoud voel het hulle ongemaklik

Benefits of Being in the Study

❖ There is no direct benefit to your child/**ward,** but her involvement is likely to assist us to know more about how to tailor birth control services to meet the needs of young women.

Voordele van wat in die studie

- Daar is geen direkte voordeel vir u kind /saal maar haar betrokkenheid is geneig om ons te help om meer oor hoe om op maat van geboorte beheer dienste aan die behoeftes van jong vroue te ontmoet weet.

Confidentiality

- ❖ The interview with your child/ward is confidential and the only thing that will be disclosed is any form of maltreatment (including physical ill-treatment, emotional maltreatment, sexual abuse or neglect), but this will be reported to the social development department, a child welfare agency, or a police official in terms of legislation.
- ❖ If your child/ward tells us that she is experiencing some form of violence or maltreatment (including physical ill-treatment, emotional maltreatment, sexual abuse or neglect) or if a research staff reasonably suspects violence or maltreatment, and that this has not been reported to a relevant agency, we are required by law to report this to a child protection agency. Someone will then investigate and see what needs to be done to keep your child/ward safe. Your daughter's confidentiality will be protected and we will provide counselling and manage expectations honestly. These actions are necessary to protect you and your child.
- ❖ All the documents and records of this study will not be available to anyone outside the research team.
- ❖ Research documents and records will be kept in a locked file, and all electronic information will be coded and secured using a password protected file.
- ❖ Once we have completed the study and written the results, all study documents will be destroyed.

Vertroulikheid

- Die onderhoud met u kind / saal is vertroulik en die enigste ding wat sal bekend gemaak word is enige vorm van mishandeling (insluitende fisiese mishandeling, emosionele mishandeling,

seksuele misbruik of verwaarlosing), maar dit sal gerapporteer word aan die departement van maatskaplike ontwikkeling, 'n kindersorg-agentskap, of 'n polisiebeampte in terme van wetgewing.

- Indien u kind / saal vertel ons dat sy ervaar een of ander vorm van geweld of mishandeling (insluitende fisiese mishandeling, emosionele mishandeling, seksuele misbruik of verwaarlosing) of as 'n navorsing personeel vermoed geweld of mishandeling, en dat dit nog nie gerapporteer word aan 'n toepaslike agentskap, is ons deur die wet vereis om dit te rapporteer aan 'n kinderbeskermingseenheid agentskap. Iemand sal dan ondersoek en kyk wat gedoen moet word om u kind /saal veilig te hou .Vertroulikheid van u dogter sal beskerm en ons sal berading verskaf en eerlik verwagting te bestuur.. Hierdie optrede is nodig om u en u kind te beskerm.
- Al die dokumente en rekords van hierdie studie sal nie beskikbaar vir iemand buite die navorsingspan wees.
- Navorsing dokumente en rekords sal in 'n geslote lêer gehou word, en alle elektroniese inligting sal gekodeer word en verseker met behulp van 'n wagwoord beskermde lêer.
- Wanneer ons die studie voltooi het en geskryf die resultate, sal al die studie-dokumente vernietig.

Reimbursement

❖ Your daughter/**ward** will receive a light refreshment on completion of the interview.

Vergoeding

- Jou dogter / saal sal 'n ligte verversings ontvang na afloop van die onderhoud.

Right to Refuse or Withdraw

❖ The decision to involve your daughter in this study is entirely up to you and your child. It is entirely voluntary.

- ❖ If your child is uncomfortable about any of the interview questions she can choose not to answer or participate in that part of the question.
- ❖ Your daughter has the right to withdraw from the interview at any time during the interview process.
- ❖ There will be no penalty if your daughter decides to quit at any time during the interview
- ❖ Whether your daughter participates or not she will still get the same care as usual at the clinic.

Reg om te weier of te onttrek

- Die besluit om u dogter aan hierdie studie betrek is heeltemal aan u en u kind. Dit is heeltemal vrywillig.
- As u kind ongemaklik is oor enige van die onderhoud vrae, sy kan kies om nie te antwoord of deel te neem in daardie deel van die vraag.
- U dogter het die reg om te onttrek van die onderhoud te enige tyd gedurende die onderhoud proses.
- Daar sal geen straf wees as u dogter besluit om op te hou te enige tyd gedurende die onderhoud
- Of u dogter deelneem of nie, sal sy nog steeds dieselfde sorg soos gewoonlik by die kliniek kry.

Right to Ask Questions and Report Concerns

- ❖ You have the right to ask any questions in relation to this research study, but the information your child has provided cannot be shared with you.
- ❖ If you have any questions about this research study, you can contact me at 0717243901.
- ❖ If your daughter has any problem or concern that occurs as a result of her participation in the research study, you can contact me at 0717243901.
- ❖ If you have any concern about your daughter's right as a research participant that have not been adequately address by the research team, you can contact me at 0717243901 or report

to Human Research Ethics Committee at the Faculty of Health Sciences University of Cape Town at +27214066346

Reg om vrae te vra en Rapporteer Kommernisse

- U het die reg om enige vrae wat betrekking het om hierdie navorsingstudie vra, maar die inligting wat u kind voorsien kan nie gedeel word met u.
- Indien u enige vrae het oor hierdie navorsingstudie, kan u my kontak by 0717243901.
- As u dogter het 'n probleem of bekommernis wat plaasvind as gevolg van haar deelname aan die navorsingstudie, kan u my kontak by 0717243901.
- Indien u enige kommernis oor regte van u dogter as 'n navorsingsdeelnemer wat nie voldoende aan te spreek deur die navorsingspan, kan u my kontak by 0717243901 of verslag aan die mens Navorsingsetiekkomitee van die Fakulteit Gesondheidswetenskappe Universiteit van Kaapstad by + 27214066346

Consent

- ❖ Your signature/thumbprint below confirms that you have agreed to allow your daughter participates in the research study, and that you have read and understood the information provided in this form and information sheet. You will be given a signed/thumb printed copy of this form to keep. The lead researcher will keep a copy.

toestemming

- U handtekening / duimafdruk hieronder bevestig dat u ingestem het om toe te laat u dogter om aan die navorsingstudie deel te neem, en dat u het die inligting wat in hierdie vorm en inligtingsblad gelees en verstaan. U sal 'n getekende / duim gedrukte afskrif van hierdie vorm gegee word om aan te hou. Die hoofnavorser sal 'n afskrif hou.

Biodun Olagbuji (Lead Researcher)
Doctoral Candidate, School of Public Health
University of Cape Town
Mobile: 0717243901

E-mail: biodun_olagbuji@yahoo.com

Signature/thumbprint of parent/guardian…… Date……..

Signature of research staff…… Date……..

Appendix 4: Exit Interview Questionnaire for Adolescent Girl Clients (14-19 years) in HIV Services.

[1]**Instruction to field staff: Tick the appropriate consent form completed for this respondent.** Please note that participation is voluntary and consent is a must. A parent's/legal guardian's written consent is required for all participants aged 14-17 years. Informed consent can only be completed after a participant has been informed about the facts of the study using the attached information sheet (see appendix 2), and demonstrated understanding of the information. **Please tick the appropriate boxes below:** Consent form for girl 18 or 19 years: Yes ☐ No ☐ Parent/Guardian consent for girl 14 to 17 years: Yes ☐ No ☐ Assent form for girl 14 to 17 years: Yes ☐ No ☐	

[2]**Instruction to field staff:** Please tell every participant that her opinion and views to the questions are very important. Inform participants to answer every question carefully and honestly. In addition, tell participants that their answers will help in the development of better health services.

[2]**Umyalelo kubasebenzi bophando lwangaphandle: Xelela omnye nomnye umthathi-nxaxheba ukuthi uluvo neembono zakhe kwimibuzo zibaluleke kakhulu. Xelela abathathi-nxaxheba ukuphendula omnye nomnye umbuzo ngononophelo nangokunyanisekileyo. Ngaphezu koko, xelela abathathi-nxaxheba ukuba iimpendulo zabo ziya kunceda kuphuhliso lweenkonzo zempilo ezingcono.**

Interviewer ID number: ☐☐

Participant Study number: ☐☐☐

Study clinic's code (please circle appropriate code below):

01: Gugulethu CHC 02: Nyanga CHC 03: Heidveld CHC 04: Brown Farms CHC
05: Mitchells Plain 06: Cross roads CHC 07: Khayelitsha (site B) 08: Michael M. CHC
09: Site B youth clinic 10: Site C Youth Clinic 11: Nolungile CHC] 12: Vuyani Clinic
13: Mzamomhle Clinic 14: Weltevreden Valley Clinic 15: Kuyasa Clinic 16: Mathew Goniwe Clinic
17: Town 2 Clinic

Language of interview (please circle appropriate box below)

English ☐ isiXhosa ☐ Afrikaans ☐

Date of interview: ☐☐ ☐☐ ☐☐☐☐
Day Month Year

No	Questions	Responses	Cod-ing	Skip
Section 1: Socio-demographic				
101	How old were you at your last birthday? **Ubuneminyaka emingaphi kusuku lwakho lokuzalwa lokugqibela?**	14 15 16 17 18 19	1 2 3 4 5 6	
102	What is your date of birth? **Umhla wakho wokuzalwa uthini?**	☐☐ ☐☐ ☐☐☐☐ Day/**Usuku** Month/**Inyanga** Year/**Unyaka** Write 77 for day or 88 for month or 9999 for year if unknown		

103	What is the highest level of grade you have completed or what level of school are you presently? **Leliphi elona banga lomphakamo ophezulu oligqibileyo okanye ukowuphi umphakamo wesikolo ngoku?** *Interviewer: Tick only one that applies*	Grade/**Ibanga** 1 Grade/**Ibanga** 2 Grade/**Ibanga** 3 Grade/**Ibanga** 4 Grade/**Ibanga** 5 Grade/**Ibanga** 6 Grade/**Ibanga** 7 Grade/**Ibanga** 8 Grade/**Ibanga** 9 Grade/**Ibanga** 10 Grade/**Ibanga** 11 Grade/**Ibanga** 12 College/**Ikholeji** University/**Iyunivesithi** Never went to school/**Andizange ndiye esikolweni** Not known/**Andilazi**	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 99	
104	Currently, do you work for pay (i.e for money)? **Njengangoku, usebenzela umvuzo (oko kukuthi imali)?**	No/**Hayi** Yes/**Ewe**	0 1	
105	In the household/home where you currently live, do you have access to: **Endlini/ekhaya apho uhlala khona ngoku, ingaba uyafikelela kwezi:** *Interviewer: Please read all the response options to the respondent then tick the appropriate boxes that apply.*		Yes No	
		A television/**Umabonakude/ iTV?** Yes☐ No☐	1 0	
		A landline/**Ifoni yasendlini?** Yes ☐ No ☐	1 0	
		Own cellular phone/**Iselifoni eyeyakho?** Yes☐ No ☐	1 0	
		A computer/**Ikhompyutha?** Yes ☐ No ☐	1 0	
		A refrigerator/**Isibandisi/ifriji?** Yes ☐ No ☐	1 0	
		A car or truck/**Imoto okanye ilori?** Yes☐ No☐	1 0	
		A motorcycle/scooter/**Isithuthuthu/ isikuta?** Yes☐ No ☐	1 0	
		A clothes washing machine/**Umatshini wokuhlamba iimpahla?** Yes ☐ No☐	1 0	
		Piped water into house/**Amanzi empompo angena endlini?** Yes☐ No ☐	1 0	
		Flush toilet not shared with other households/**Igumbi langasese eligunxuzwayo elingadityanelwanga neminye imizi?** Yes☐ No ☐	1 0	
106	To which faith/religion do you belong? **Ulilungu loluphi ukholo/unqulo?**	None/**Akukho naluphi** Islam/**I-Islam** Pentecostal/**I-Pentecostal** Roman catholic/**IRoma ekatolike**	1 2 3 4	

	Interviewer: Please note below: *Atheism/**Ateïsme:** disbelief in the existence of God or gods/**I-Atheism: Ukungakholwa kubukho bukaThixo okanye oothixo*** *Agnosticism/**Agnostisisme:** doubting whether or not God exists/ **I-Agnosticism: Ukungabaza nokuba ukhona okanye akekho uThixo.*** *Interviewer: Tick only one that applies*	Protestant-Anglican, Methodist etc/**IProtestanti-iTshetshi, iWesile njlnjl** Afrikaanse/**i-Afrikaanse** Protestantse Kerk Traditional African belief/**Inkolo yeSintu yaseAfrika** Atheism/**I-Atheism:** Agnosticism/**I-Agnosticism:** Other (specify)/**Ezinye (cacisa)…….**	5 6 7 8 9 66 77	
107	With whom do you live/**Uhlala nobani?** *Interviewer: Please read all the response options to the respondent then circle only one that is applicable.*	Live alone/**Uhlala wedwa** Live with parent(s)/**Uhlala nomzali (nabazali)** Live with other relatives/**Uhlala nezinye izizalwane** Live with male partner or married/**Ndihlala neqabane eliyindoda okanye nditshatile** Live with others (i.e friends/peers, dormitory)/**Ndihlala nabanye (oko kukuthi abahlobo/oontanga, endlini yokulala yabaninzi)**	1 2 3 4 5	
108	What is the highest level of education of the person who assumes the most responsibility in caring for you? **Ngowuphi owona mphakamo uphezulu wemfundo womntu othatha olona xanduva kwinkathalelo yakho?**	Never went to school/**Akazange afunde kwaphela** Primary (grade 7)/**Iprayimari (ibanga 7)** High school (grade 12)/**Isikolo esiphakamileyo (ibanga 12)** **College/Ikholeji** University/**Iyunivesithi** Unknown/**Awaziwa** Don't have caregiver/**Andinawo umnikelo oyintloko wenkathalelo**	1 2 3 4 5 99 910	
109	If you come straight from the home where you currently live, how long does it normally take you to get to this clinic? **Ukuba usuka ngqo ekhaya apho uhlala khona ngoku, ngesiqhelo kuthatha ixesha elingakanani ukuthi ufike kule kliniki?**	Minutes/**Imizuzu** ☐☐☐		

110	Have you ever had a glass of beer, wine, or a shot of liquor (not including while with your family at a banquet or celebration)? **Ingaba sewukhe wasela iglasi yebhiya, yewayini, okanye isivuseleli sotywala (ungaquki xeshikweni unosapho lwakho kwisidlo okanye emsithweni)?**	No/**Hayi** ☐ Yes/**Ewe** ☐	0 1	
111	Have you ever smoked cigarette? **Ingaba wakhe wawutshaya umdiza?**	No/**Hayi**☐ Yes/**Ewe**☐	0 1	
HIV service use				
201	What day, month and year did you enrol in this clinic for HIV care? **Kungoluphi usuku, inyanga nonyaka owabhalisa ngalo kule kliniki yenkathalelo ye-HIV?** *Interviewer: Write approximate month and year if exact time not known*	☐☐ ☐☐ ☐☐☐☐ Day/**Usuku** Month/**Inyanga** Year/**Unyaka** Write 77 for day or 88 for month or 9999 for year if unknown		
202	Why did you decide to choose this clinic for HIV care/services? **Kutheni wathatha isigqibo sokukhetha le kliniki malunga nenkathalelo/iinkonzo ze-HIV?** *Interviewer: Please read all the response options to the respondent then tick all the boxes that apply.*		Yes No	
		Availability of ARV/**Ukufumaneka kweARV?** Yes/**Ewe** ☐ No/**Hayi**☐	1 0	
		Close distance to residence/**Umgama omfutshane ukuya kwindawo yokuhlala?** Yes/**Ewe** ☐ No/**Hayi**☐	1 0	
		Short waiting time/**Ixesha lokulinda elifutshane?** Yes/**Ewe** ☐ No/**Hayi** ☐	1 0	
		Friendliness of providers/**Ububele babanikeli benkonzo?** Yes/**Ewe**☐ No/**Nee**☐	1 0	
		Attends to only youth/**Ukuhoya ulutsha kuphela?** Yes/**Ewe** ☐ No/**Hayi** ☐	1 0	
		Confidentiality and privacy/**Imfihlo nobuwedwa**? Yes/**Ewe** ☐ No/**Hayi** ☐	1 0	
		Possibility to receive contraceptive services (counselling, contraception)/**Ithuba lokufumana iinkonzo zothintelo lwenzala (ululeko, uthintelo lwenzala)?** Yes/**Ewe** ☐ No/**Hayi** ☐	1 0	
		Referred/transferred from other clinic/**Ukuthunyelwa /ukugqithiselwa kwenye ikliniki?** Yes/**Ewe** ☐ No/**Hayi**☐	1 0	

		Recommended by friend/parent/family/**Ikhuthazwa ngumhlobo/umzali/usapho?** Yes/**Ewe** ☐ No/**Hayi** ☐ Others (specify)/**Ezinye (cacisa**)…	1 0	
203	Please can you tell me, when you tested positive for HIV? **Ngesicelo ingaba ungandixelela, walufumana nini uvavanyo lokuthi une-HIV?** *Interviewer: Write approximate month and year if exact time not known.*	At Birth (mother to child): Yes ☐ No ☐ If not at birth, Please tell me the date: ☐☐ ☐☐ ☐☐☐☐ Day/**Usuku** Month/**Inyanga** Year/**Unyaka** Write 99 for day or 999 for month or 9999 for year if unknown		
204	Which of these best describes how you acquired HIV infection? **Yeyiphi kwezi echaza ngeyona ndlela ingcono ukuba walufumana njani usulelo lwe-HIV?** *Interviewer: Please read all the response options to the respondent then circle only one that is applicable*	Injecting drug use/**Ukusebenzisa ukutofa ichiza/isiyobisi** Sexual partner/**Iqabane lezesondo** Mother to child/**Ukusuka kumama ukuya emntwaneni** Others (specify)/**Ezinye (cacisa**)… Don't know/**Andazi**	1 2 3 99	
205	Are you currently taking HIV treatment medicine (Anti-retroviral)? **Ingaba ngoku uthatha iyeza lokunyanga i-HIV (Anti-retroviral)?**	No/**Hayi** Yes/**Ewe** Not sure/**Andiqinisekanga**	0 1 99	
206	How many days have you missed taking all of your doses of HIV medications during the past four days? **Zingaphi iintsuku oziphosileyo zokuthatha onke amayeza e-HIV kwiintsuku ezine ezigqithileyo?**	None/**Alukho** One day/**Usuku olunye** Two days**/Iintsuku ezimbini** Three days/**Iintsuku ezintathu** Four days/**Iintsuku ezine**	0 1 2 4 5	
207	What was your last CD4 count?	☐☐☐ Number/**Inani**		

	Beluyintoni ubalo lwakho lokugqibela lwe-CD4? When was the date of this last CD4 count? **Ubunini umhla wolu balo lokugqibela lwe-CD4?**	Write 99 if CD4 count is unknown ☐☐ ☐☐ ☐☐☐☐ Day/**Usuku** Month/**Inyanga** Year/**Unyaka** Write 99 for day or 999 for month or 9999 for year if unknown		
208	Are you currently attending HIV-Youth Support Group/Club? Ingaba likhona iqela lenxaso lolutsha elinentsholongwane kagawulayo ohamba kulo?	No/**Hayi** ☐ Yes/**Ewe** ☐		
Pregnancy experiences				
301	How many living children do you have? **Bangaphi abantwana abaphilayo onabo?**	☐☐ Number**/Inani**		
302	a) Since you tested positive for HIV, how many times have you been pregnant? **Ukususela ubenovavanyo lokuba ne-HIV, uthe wakhulelwa amaxesha amangaphi?** b)How many of these pregnancies (including current pregnancy) occurred: **Mangaphi amaxesha oku kukhulelwa awenzekile (kuquka ukukhulelwa kwangoku):** • When no children, or no more children, were desired? **Xa kungekho bantwana, okanye kungekho bantwana**	☐☐ Number/**Inani** ☐☐ Number**/Inani**		Skip 302b if respondent has never been pregnant?

	abongezekileyo, abanqwenelwayo? • Earlier than desired? **Ngaphambi kwexesha ebelinqwenelwa?** • When you used a birth control method? **Xa ubusebenzisa indlela yolawulo lwenzala?** • When you did not desire to become pregnant but did not use a birth control method? **Xa ubunganqweneli ukukhulelwa kodwa ungasebenzisanga indlela yolawulo lwenzala?**	☐☐ ☐☐ ☐☐		
303	a)Would you like any more children in the future? **Ungathanda abantwana abongezelekileyo kwixesha elizayo?** *Interviewer: this question is for participants who have had a child/children*	No/**Hayi** Yes/**Ewe** Not sure/**Andiqinisekanga**	0 1 2	If No, skip to 401
	b) In future would you like to have children? **Kwixesha elizayo ungathanda ukufumana abantwana?** *Interviewer: this question is for participants who have had no children*	No/**Hayi** Yes/**Ewe** Not sure/**Andiqinisekanga** N/A/**Akusebenzi** (for person who are physically unable to have children)/**(vir persoon wat fisies nie kan kinders hê nie)**	0 1 2 3	If No, skip to 401
304	How long would you like to wait before you become pregnant/next pregnancy? **Ungathanda ukulinda ixesha elide kangakanani phambi kokukhulelwa/ ukukhulelwa okulandelayo?**	☐☐ Weeks/**Iiveki** ☐☐ Months/**Iinyanga** ☐☐ Years/**Iminyaka** ☐☐ Not sure/**Andiqinisekanga** (please enter 88)		

Contraceptive behaviours: Now I would like to talk about family planning/contraception/preventer- the various ways or methods that a couple can use to delay or avoid a pregnancy. **Iindlela zokuziphatha zokuthintela inzala: Ngoku ndingathanda ukuthetha ngocwangciso losapho /uthintelo lwenzala/isithinteli- iintlobo ngeentlobo zeendlela okanye iinkqubo ezinokusetyenziswa ngabalingane ukucothisa okanye ukuphepha ukukhulelwa.**					
401	Have you ever heard of the following **(METHOD)/** Ingaba wakhe weva (NGENDLELA) elandelayo?	No/**Hayi**	Yes/**Ewe**		
	a)Intrauterine device/IUD/Loop	0	1		
	b)2 months (Nur-Isterate) or 3 months (Depo-provera) injectables/**iinyanga ezi-2 (i-Nur-Isterate) okanye iinyanga ezi-3 ze-(i-Depo-provera) Ezokutofa**	0	1		
	c)Implants/**Izimiliselo**	0	1		
	d)Pill/birth control tablet/ **Ipilisi/ipilisi yokuthintela inzala**	0	1		
	e)Condom/**Ikhondom**(male)	0	1		
	f)Female condom/**Ikhondom yabasetyhini**	0	1		
	g) Spermicides (chemical foams/jellies/creams)/ **Isibulala-madlozi (igwebu lechiza/ijeli/amafutha okuthambisa)**	0	1		
	h)Emergency contraception/Morning after pill/Norlevo/**Uthintelo lwenzala lwengxakeko/Ipilisi yasemva kokwabelana ngesondo/Norlevo**	0	1		
	i) Female sterilization/ **Udloliso lwabasetyhini ngotyando lobugqirha**	0	1		
	j)Male sterilization/Vasectomy/ **Udloliso lwendoda ngotyando lobugqirha/i-Vasectomy**	0	1		
	Interviewee: Please read all the response options to the respondent then circle all that are applicable ***Female sterilization: Surgical procedure to block fallopian tubes***				
402	How did you learn about birth control	Friends/**Izimiliselo** Family/parents/**Usapho/abazali**		1 2	

	method/contraception/preventer ? **Ufunde njani malunga nendlela yolawulo lwenzala /uthintelo lwenzala/uthintelo?** *Interviewer: Please read all the response options to the respondent then circle all that are applicable*	Media/**Usasazo lweendaba** School /teachers/**Isikolo/ootitshala** Internet/**i-inthanethi** Partner/**Umlingane** Care provider (Doctors, nurses, etc)/**Umnikeli weNkathalelo (Oogqirha, abongikazi, njlnjl)** Others (Please specify)/**Ezinye(Nceda ucacise)……**	3 4 5 6 7 66	
403	Are you or your partner currently doing something or using any method to delay or avoid getting pregnant? **Ingaba wena okanye umlingane wakho ngoku nenza okuthile okanye usebenzisa nayiphi indlela ukubambezela okanye ukuphepha ukukhulelwa?**	No/**Hayi** Yes/**Ewe**	0 1	If No, skip to 405
404	If Yes response to question 403, what methods are you currently using? **Ukuba ngu-ewe kumbuzo we-403, zeziphi iindlela enizisebenzisayo ngoku?** *Interviewer: Please read all the response options to the respondent then circle all that are applicable.* ***Probe for use of condom with another method.*** *Definition of terms:* *<u>Rhythm Method:</u> Sexual (vaginal) intercourse abstinence on days 12 through 19 of the menstrual cycle i.e., days when pregnancy is not likely to occur.* ***Ingcaciso yamagama:*** ***<u>Indlela yesingqi:</u> Ukuzila ukwabelana ngesondo (kwilungu lobufazi) kwiintsuku ezili-12 ukuya kwezili-19 zomjikelo wokuya exesheni oko kukuthi., iintsuku xa ukukhulelwa***	Pills/birth control tablet/**Iipilisi/ipilisi yokulawula inzala** Male condom/**Ikhondom yamadoda** Female condom/**Ikhondom yabasetyhini** 2 month (Nur-Isterate) or 3 month(Depo-provera) injectables/ **Iinyanga ezi-2 (i-Nur-Isterate) okanye iinyanga ezi-3 (i-Depo-provera) Ezokutofa** Implant**/Isimiliselo** IUD/loop/coil/**I-IUD/i-loop/ikhoyili** Spermicide (chemical foam/jelly/cream)/**Isibulala-madlozi (igwebu lechiza/ijeli/amafutha okuthambisa)** Emergency contraception/morning after pill/**Uthintelo lwenzala lwengxakeko/ipilisi yasemva kokwabelana ngesondo** Female sterilization/tubal ligation/**Udloliso lwabasetyhini ngotyando lobugqirha/ukubotshwa kwemibhobho** Male sterilization/**Udloliso lwendoda ngotyando lobugqirha** Rhythm method/**Indlela yesingqi** Lactational amenorhhoea (Breastfeeding)/**Ukuncancisa** Standard days method/**Indlela yemihla esesikweni** Withdrawal/**Urhoxiso** Condom with another method/**Ikhondom kunye nayiphi enye indlela engentla** (Interviewer: Please write out the another method…… Other (specify)/**Enye (cacisa**)……. Don't know/**Andazi**	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 66 99	

	kukho ithuba lokuba kungenzeki. *<u>Standard Days Method:</u> Sexual (vaginal) intercourse abstinence on days 8 through 19 of the menstrual cycle i.e., (days when pregnancy is not likely to occur) by women with cycles consistently between 26 and 32 days.* ***<u>Indlela yemihla esesikweni:</u> Ukuzila ukwabelana ngesondo (kwilungu lobufazi) kwiintsuku ezili-12 ukuya kwezili-19 zomjikelo wokuya exesheni oko kukuthi., iintsuku xa ukukhulelwa kukho ithuba lokuba kungenzeki rhoqo phakathi kweentsuku ezingama-26 nezingama-32.***			
405	If No to question 403, interviewer please ask this question: Since you tested positive for HIV, what family planning method(s) have you/your partner used to avoid getting pregnant? **Ukuba nguHayi kumbuzo wama-403, mbuzi wodliwano-ndlebe nceda ubuze lo mbuzo: Ukususela ekufumaneni uvavanyo lokuthi une-HIV, yeyiphi okanye zeziphi iindlela zokucwangcisa usapho wena/umlingane wakho azisebenzisileyo ukuphepha ukukhulelwa?** *Interviewer: Please read all the response options to the respondent then circle all that are applicable*	Pills/birth control tablet/**Iipilisi/ipilisi yokulawula inzala** Male condom/**Ikhondom yamadoda** Female condom/**Ikhondom yabasetyhini** 2 month (Nur-Isterate) or 3 month(Depo-provera) injectables/ **Iinyanga ezi-2 (i-Nur-Isterate) okanye iinyanga ezi-3 (i-Depo-provera) Ezokutofa** Implant**/Isimiliselo** IUD/loop/coil/**I-IUD/i-loop/ikhoyili** Spermicide (chemical foam/jelly/cream)/**Isibulala-madlozi (igwebu lechiza/ijeli/amafutha okuthambisa)** Emergency contraception/morning after pill/**Uthintelo lwenzala lwengxakeko/ipilisi yasemva kokwabelana ngesondo** Female sterilization/tubal ligation/**Udloliso lwabasetyhini ngotyando lobugqirha/ukubotshwa kwemibhobho** Male sterilization/**Udloliso lwendoda ngotyando lobugqirha** Rhythm method/**Indlela yesingqi** Lactational amenorhhoea (Breastfeeding)/**Ukuncancisa** Standard days method/**Indlela yemihla esesikweni** Withdrawal/**Urhoxiso**	1 2 3 4 5 6 7 8 9 10 11 12 13 14	

		Condom with another method/**Ikhondom kunye nayiphi enye indlela engentla** (Interviewer: Please write out the another method…… Other (specify)/**Enye (cacisa**)……. Don't know/**Andazi** None/**Nanye**	15 66 99 100	
406	Since you tested positive for HIV, what family planning method(s) have you or your partner stopped using? **Ukususela ekufumaneni uvavanyo oluthi une-HIV, yeyiphi indlela/iindlela zokucwangcisa usapho wena okanye umlingane wakho azisebenzisileyo ayekileyo ukuzisebenzisa?** . *Interviewer: Please read all the response options to the respondent then circle all that are applicable*	Pills/birth control tablet/**Iipilisi/ipilisi yokulawula inzala** Male condom/**Ikhondom yamadoda** Female condom/**Ikhondom yabasetyhini** 2 month (Nur-Isterate) or 3 month(Depo-provera) injectables/ **Iinyanga ezi-2 (i-Nur-Isterate) okanye iinyanga ezi-3 (i-Depo-provera) Ezokutofa** Implant**/Isimiliselo** IUD/loop/coil/**I-IUD/i-loop/ikhoyili** Spermicide (chemical foam/jelly/cream)/**Isibulala-madlozi (igwebu lechiza/ijeli/amafutha okuthambisa)** Emergency contraception/morning after pill/**Uthintelo lwenzala lwengxakeko/ipilisi yasemva kokwabelana ngesondo** Female sterilization/tubal ligation/**Udloliso lwabasetyhini ngotyando lobugqirha/ukubotshwa kwemibhobho** Male sterilization/**Udloliso lwendoda ngotyando lobugqirha** Rhythm method/**Indlela yesingqi** Lactational amenorhhoea (Breastfeeding)/**Ukuncancisa** Standard days method/**Indlela yemihla esesikweni** Withdrawal/**Urhoxiso** Condom with another method/**Ikhondom kunye nayiphi enye indlela engentla** (Interviewer: Please write out the method…… Other (specify)/**Enye (cacisa**)……. Don't know/**Andazi** None**/Nanye**	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 88 99 100	Skip 407 if particip ant say **"None "** Skip 407 if particip ant say **"None "**
407	Why did you/your partner stop using the family planning method(s) above?	Advised by provider to use condoms instead/**Ucetyiswe ngumnikeli wenkathalo ukusebenzisa iikhondom endaweni yoko**	No Yes **Hayi Ewe** 0 1	

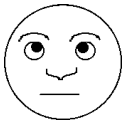
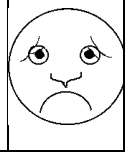
	I am going to read a number of option please answer No or Yes to each Did you stop because….. **Kutheni wena/umlingane wakho eyekile ukusebenzisa indlela/iindlela zokucwangcisa usapho ezingentla?** **Ndiza kufunda iindlela zokhetho eziliqela ngako phendula ngoHayi okanye ngo-Ewe kuhlobo ngalunye Uyekile ngenxa yokuba …..** *Interviewer: Please read all the response options to the respondent then circle all that are applicable*	Problems with method/side-effects/**Iingxaki zendlela eniyisebenzisayo/iziphumo ezingalindelekanga** Costs/**Iindleko** Fear of HIV transmission to HIV-negative partner/ **Uloyiko lokudlulisela i-HIV kumlingane ongenalo usulelo lwe-HIV** Fear of getting infected with another HIV virus/**Uloyiko lokufumana usulelo lwenye ivayirasi ye-HIV** It can worsen HIV disease condition/**Ingenza mandundu imeko yesifo se-HIV** Positive partner HIV test result/**Isiphumo sovavanyo somlingane one-HIV** Lower success of HIV medications/**Impumelelo ephantsi yamayeza e-HIV** Provider advised to stop method/**Umnikeli ucebise ukuyeka indlela** Moved house/changed clinic/**Ufudukile endlini/utshintshe ikliniki** Broke up with partner/**Wahlukene nomlingane** Stopped having sex/**Uyekile ukwabelana ngesondo** Wanted a baby**/Ufuna usana** Partner wanted a baby/**Umlingane ufuna usana** Partner told me to stop/**Umlingane undixelele ukuba ndiyeke** Others (specify)/**Ezinye (cacisa):_____** Don't know/**Andazi**	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 88 99	

Hormonal contraceptive-related safety concerns: As you probably know, some women living with HIV would not take a hormonal method for birth control/pregnancy prevention **(pills/birth control tablets, emergency contraceptive/morning after, 2 months/3 months injectables and implants)** because it might make it more likely for them or their male sexual partners to develop a problem while using it. Please tell me how much you agree or disagree with the statements I read to you. You can use the face that best describes your opinion.

Amaxhala anxulumene nokhuseleko lokusebenzisa izithinteli ze-hormone: Njengoko mhlawumbi usazi, abanye abasetyhini abaphila ne-HIV abanakho ukusebenzisa indlela ye-hormone yokulawula inzala /ukuthintela ukukhulelwa (iipilisi/ipilisi yokulawula inzala, uthintelo lwenzala lwengxakeko /lwentsasa emva kwezesondo, iinyanga ezi-2 /iinyanga ezi-3 ezokutofa nezimiliselo) ngenxa yokuba kungabakho nangakumbi ukuba bona okanye abalingane babo abangamadoda banokuvelelwa yingxaki xeshikweni beyisebenzisa. Nceda undixelele ukuba uvumelana okanye awuvumelani kangakanani neengxelo endikufundela zona. Ingaba uyaVuma ngaMandla, uyaVuma, uneZimvo eziXubeneyo, AwuVumi okanye awuVumi ngaMandla? Ungasebenzisa ubuso obuchaza ngeyona ndlela ilungileyo uluvo lwakho.

Umbuzi wodliwano-ndlebe: Nceda wazise abathathi-nxaxheba malunga neentlobo ngeentlobo zeendlela ze-hormone zokuthintela inzala.

Interviewer: Please inform participants about the various hormonal methods for pregnancy prevention.

501	Let us assume that you wanted to use a hormonal method of birth control. Which of the following response options would apply to you regarding the statements I read to you. Interviewer: Please start each question (501a-d) with: Do you Strongly Agree, Agree, have Mixed feelings, Disagree or Strongly Disagree that ***Masithathe ngokuthi ubufuna ukusebenzisa indlela ye-hormone ukulawula inzala.***	Strongly Agree/ **Ndivume ngamandla** 	Agree/**Ndiyavuma** 	Mixed feelings/ **Izimvo ezixubeneyo** 	Disagree/ **Andivumi** 	Strongly Disagree/ **Andivumi ngaMandla** 

	Zeziphi zeendlela ezilandelayo zokhetho zokuphendula ezingasebenza kuwe malunga neengxelo endikufundela zona. Umbuzi wodliwano-ndlebe: Nceda uqale umbuzo ngamnye (501a-d) ngokuthi: **Ingaba uVuma ngaMandla, uyaVuma, uneZimvo eziXubeneyo, AwuVumi okanye awuVumi ngaMandla ukuba …….** *Interviewer: Please explain the meaning of hormonal contraceptives to respondent. Note that hormonal contraceptives are birth control methods that act on the body system. Hormonal contraceptives include pills, injections and implants.*					
	a)In your case, using hormonal contraceptive could make HIV disease progression to occur quickly (i.e. worsening HIV disease or cause AIDS)? **Kwimeko yakho, ukusebenzisa isithinteli senzala se-hormone kungenza isifo se-HIV siqhubeke ukwenzeka ngokukhawuleza (oko kukuthi ukuba mandundu kwesifo se-HIV okanye kudale i-AIDS)?**	☐	☐	☐	☐	☐
		STRONGLY AGREE	**AGREE**	**MIXED FEELINGS**	**DISAGREE**	**STRONGLY DISAGREE**
	b) In your case, hormonal contraceptive use could make passing the HIV virus to an uninfected male sexual partner to be more able? **Kwimeko yakho, ukusebenzisa isithinteli senzala se-hormone kungenza ukugqithisa ivayirasi ye-HIV kumlingane wezesondo oyindoda ongenalo usulelo kwenzeke nangakumbi?**	☐	☐	☐	☐	☐
	c) In your case, the ability of HIV treatments/medicines to fight HIV virus/AIDS could be reduced with concurrent use of hormonal contraceptive. **Kwimeko yakho, isakhono sonyango /samayeza e-HIV sokulwa nevayirasi ye-HIV**	☐	☐	☐	☐	☐

	/AIDS singancitshiswa ngokuhambelana nokusebenzisa isithinteli senzala se-hormone.					
	d) In your case, birth control failure (i.e., a possibility of getting pregnant) could be more if hormonal contraceptive is used concurrently with HIV medicines because of the possible alterations in its ability to prevent pregnancy by HIV medicines. **Kwimeko yakho, ukusilela kolawulo lwenzala (oko kukuthi, ithuba lokukhulelwa) lingenzeka kakhulu ukuba isithinteli senzala se-hormone sisetyenziswa ngokuhambelana namayeza e-HIV ngenxa yeenguqu ezinokubakhona kwisakhono saso sokuthintela ukukhulelwa ngenxa yamayeza e-HIV.**	☐	☐	☐	☐	☐

Please I would like to know about the relationship you have with your parent(s)/guardian(s) with regards to contraception/family planning/preventer/**Ngesicelo ndingathanda ukwazi malunga nonxulumano onalo nomzali/nabazali bakho/ nomlondolozi/nabalondolozi bakho malunga nothintelo lwenzala/ucwangciso losapho/isithinteli?**		
502		*Interviewer: Please ask participant to indicate her opinion on the response/diagram and then tick the appropriate box.*

	Do you strongly disagree, disagree, ……that Your mother talks to you about contraceptive/birth control/family planning use birth control use. ***Awuvumi ngaMandla, awuVumi, akukho Nanye yokuNgavumi okanye ukuVuma, uyaVuma, okanye uVuma ngaMandla ukuba:*** **Umama wakho uthetha nawe malunga nokusebenzisa uthintelo lwenzala/ulawulo lwenzala/ucwangciso lwenzala.**	Strongly Disagree/ **Andivumi ngaMandla**  ☐	Disagree/ **Andivumi**  ☐	Neither Disagree/Agree/ **Akukho nanye yokuNgavumi/ukuVuma Ndiyavuma**  ☐	Agree/ **Ndiyavuma**  ☐	Strongly Agree/ **Ndivume ngamandla**  ☐
503	**Think about your closest female friend** To what extent do you agree with the following: Your closest female friend encourages you to use contraceptives/birth control /family planning method **Cinga ngomhlobo wakho wasetyhini oyena ukufuphi nawe** **Uvumelana kangakanani nokulandelayo: Oyena mhlobo**	Strongly Disagree/ **Andivumi ngaMandla**  ☐	Disagree/ **Andivumi**  ☐	Neither Disagree nor Agree/**Akukho nanye yokuNgavumi/ukuVuma**  ☐	Agree/ **ndiyavuma**  ☐	Strongly Agree/ **Ndivume ngamandla**  ☐

	wakho wasetyhini ukufuphi naye ukukhuthaza ukusebenzisa izithinteli zenzala /ulawulo lwenzala /indlela yocwangciso losapho					
504	How often have you talked with your closest female friend about contraception/birth control/family planning method? **Kukaninzi kangakanani uthethe nomhlobo wakho wasetyhini oyena ukufuphi malunga nesithintelo senzala/ulawulo lwenzala /indlela yokucwangcisa usapho?** *Interviewer: Please read all the response options to the respondent then circle only one that is applicable*	Never/**Nakanye** 0 Once/**Kanye** 1 Few times/**amaxa ambalwa** 2 Many times/**amaxa amaninzi** 3				

505	Think about this community where you live/ **Cinga malunga nolu luntu apho uhlala khona:** How socially acceptable is it these days: If Girls receiving HIV care use contraceptives? **Kwamkeleke kangakanani ekuhlaleni kule mihla: Ukuba Amantombazana afumana inkathalelo ye-HIV asebenzisa izithinteli zenzala?**	Is it Completely Unacceptable, Unacceptable, No idea, Acceptable or Completely Acceptable? Please you may use the face that best indicates your opinion. **Ayamkeleki kwaPhelae, Ayamkeleki, Alukho uluvo, Iyamkeleka okanye Yamkeleka ngokuPheleleyo? Ngesicelo ungasebenzisa ubuso obubonisa ngeyona ndlela ingcono uluvo lwakho.**				
		Completely unacceptable/ **Akakwamkelekanga kwaphela**  ☐	Unacceptable/ **Akwamkelekanga**  ☐	No idea/ **Andinalo uluvo**  ☐	Acceptable /**Kwamkelekile**  ☐	Completely acceptable/ **Kwamkeleke ngokupheleleyo**  ☐

Sexual behaviour: *Now I would like to ask some questions about sexual activity in order to gain a better understanding of some important life issues.* **Ukuziphatha kwezesondo: *Ngoku ndingathanda ukubuza imibuzo ethile malunga nentshukumo yezesondo ukufumana ukuqonda okungcono ngemiba ethile ebalulekileyo yobomi.***

601		No/**Hayi**	Yes/**Ewe**	

	Have you ever had/**Ingaba wakhe wanamava** Sexual intercourse through vagina (Vagina intercourse/**Ukwabelana ngesondo kwilungu langasese lowasetyhini(i-Vagina intercourse?** Sexual intercourse through Anus (Anal intercourse)/**Ukwabelana ngesondo kuMva (i-Anal intercourse)?** Sexual intercourse through mouth (Oral intercourse)/**Ukwabelana ngesondo ngomlomo (i-Oral intercourse)?** *Interviewer: Please read all the response options to the respondent then circle all that are applicable*	0 0 0	1 1 1	
602	How old were you when you had sexual intercourse (vaginal intercourse) for the very first time? **Ubumdala kangakanani xa unokwabelana ngesondo kwilungu langasese lowasetyhini (i-vaginal intercourse) ityeli lokuqala.?**	☐☐ Years/**iminyaka**		
603	Since you tested positive for HIV, which contraceptive method(s) did you use the first time you had sexual intercourse (vaginal intercourse)? **Ukususela ubenovavanyo oluthi une-HIV, yeyiphi indlela yothintelo lwenzala uyisebenzisileyo kwityeli lokuqala wabelana ngesondo kwilungu langasese lowasetyhini (i-vaginal intercourse)?** *Interviewer: Please read all the response options to the respondent then circle only one that is applicable. Please remind respondent that you are not judging her.*	Pills/birth control tablet/**Iipilisi/ipilisi yokulawula inzala** Male condom/**Ikhondom yamadoda** Female condom/**Ikhondom yabasetyhini** 2 month (Nur-Isterate) or 3 month(Depo-provera) injectables/ **Iinyanga ezi-2 (i-Nur-Isterate) okanye iinyanga ezi-3 (i-Depo-provera) Ezokutofa** Implant**/Isimiliselo** IUD/loop/coil/**I-IUD/i-loop/ikhoyili** Spermicide (chemical foam/jelly/cream)/**Isibulala-madlozi (igwebu lechiza/ijeli/amafutha okuthambisa)** Emergency contraception/morning after pill/**Uthintelo lwenzala lwengxakeko/ipilisi yasemva kokwabelana ngesondo**	1 2 3 4 5 6 7 8	

		Female sterilization/tubal ligation/**Udloliso lwabasetyhini ngotyando lobugqirha/ukubotshwa kwemibhobho** Male sterilization/**Udloliso lwendoda ngotyando lobugqirha** Rhythm method/**Indlela yesingqi** Lactational amenorhhoea (Breastfeeding)/**Ukuncancisa** Standard days method/**Indlela yemihla esesikweni** Withdrawal/**Urhoxiso** Condom with another method/**Ikhondom kunye nayiphi enye indlela engentla** (Interviewer: Please write out the method…… Other (specify)/**Enye (cacisa**)…… Don't know/**Andazi** None/**Nanye**	9 10 11 12 13 14 15 66 99 100	
604	Think about all the times you have had sexual intercourse, how often would you say you or your partner used condom to prevent pregnancy? **Cinga malunga namaxa onke ube nokwabelana ngesondo, ungathi kukaninzi kangakanani wena okanye umlingane wakho esebenzise ikhondom ukuthintela ukukhulelwa?** *Interviewer: Please read all the response options to the respondent then circle only one that is applicable. Please remind respondent that you are not judging her.*	Every time/**Ngamaxa onke** Almost every time/**Phantse ngamaxesha onke** Sometimes/ **Ngamanye amaxesha** Never/**Nakanye** Don't know/**Andazi** Refused to answer/**Walile ukuphendula**	1 2 3 4 5 6	
605	Think about all the times you have had sexual intercourse, how often would you say you or your partner used any method other than condom (i.e. birth control tablets/pills, injectables (Nur-Isterate or Depo-provera), loop/coil/IUD, implant, Spermicide, or female/male sterilization) to prevent pregnancy? **Cinga malunga namaxa onke ube nokwabelana ngesondo, ungathi kukaninzi kangakanani wena okanye umlingane wakho esebenzise nayiphi indlela ngaphandle kwekhondom (oko kukuthi ipilisi yokulawula**	Every time/**Ngamaxa onke** Almost every time/**Phantse ngamaxesha onke** Sometimes/ **Ngamanye amaxesha** Never/**Nakanye** Don't know/**Andazi** Refused to answer/**Walile ukuphendula**	1 2 3 4 5 6	

	inzala/iipilisi, izitofu (i-Nur-Isterate okanye i-Depo-provera), i-loop/ikhoyili/i-IUD, isimiliselo, njlnjl) ukuthintela ukukhulela? *Interviewer: Please read all the response options to the respondent then circle only one that is applicable. Please remind respondent that you are not judging her.*			
606	How frequently did you or your partner use condom all the times you had sexual intercourse during the **last 3 months**? **Kukaninzi kangakanani wena okanye umlingane wakho esebenzise ikhondom ngamaxa onke nisabelana ngesondo kwilixa leenyanga ezi-3 ezigqithileyo?** *Interviewer: Please read all the response options to the respondent then circle only one that is applicable. Please remind respondent that you are not judging her.*	Every time/**Ngamaxa onke** Almost every time/**Phantse ngamaxesha onke** Sometimes/ **Ngamanye amaxesha** Never/**Nakanye** Don't know/**Andazi** Refused to answer/**Walile ukuphendula**	1 2 3 4 5 6	
607	How frequently did you or your partner use any method other than condom (i.e. birth control tablets/pills, injectables (Nur-Isterate or Depo-provera), loop/coil/IUD, implant, Spermicide, or female/male sterilization) to prevent pregnancy all the times you had sexual intercourse during the **last 3 months**? **Kukaninzi kangakanani wena okanye umlingane wakho esebenzise nayiphi indlela ngaphandle kwekhondom (oko kukuthi ipilisi yokulawula inzala/iipilisi, izitofu (i-Nur-Isterate okanye i-Depo-provera), i-loop/ikhoyili/i-IUD, isimiliselo, njlnjl) ukuthintela ukukhulelwa ngamaxa onke nisabelana ngesondo kwithuba leenyanga ezi-3 ezigqithileyo?** *Interviewer: Please read all the response options to the respondent then circle only one that is applicable. Please remind respondent that you are not judging her.*	Every time/**Ngamaxa onke** Almost every time/**Phantse ngamaxesha onke** Sometimes/ **Ngamanye amaxesha** Never/**Nakanye** Don't know/**Andazi** Refused to answer/**Walile ukuphendula**	1 2 3 4 5 6	
608	Which method other than condom did you or your partner use to prevent	Pills/birth control tablet/**Iipilisi/ipilisi yokulawula inzala**	1	

	pregnancy all the times you had sexual intercourse during the **last 3 months**? **Yeyiphi indlela ngaphandle kwekhondom wena okanye umlingane wakho ayisebenzisileyo ukuthintela ukukhulelwa ngamaxa onke nisabelana ngesondo kwithuba leenyanga ezi-3 ezigqithileyo?** *Interviewer: Please read all the response options to the respondent then circle only one that is applicable. Please remind respondent that you are not judging her.*	2 month (Nur-Isterate) or 3 month(Depo-provera) injectables/ **Iinyanga ezi-2 (i-Nur-Isterate) okanye iinyanga ezi-3 (i-Depo-provera) Ezokutofa** Implant**/Isimiliselo** IUD/loop/coil/**I-IUD/i-loop/ikhoyili** Spermicide (chemical foam/jelly/cream)/**Isibulala-madlozi (igwebu lechiza/ijeli/amafutha okuthambisa)** Emergency contraception/morning after pill/**Uthintelo lwenzala lwengxakeko/ipilisi yasemva kokwabelana ngesondo** Female sterilization/tubal ligation/**Udloliso lwabasetyhini ngotyando lobugqirha/ukubotshwa kwemibhobho** Male sterilization/**Udloliso lwendoda ngotyando lobugqirha** None**/Nanye**	2 3 4 5 6 7 8 99	
609a	Since you tested positive for HIV, did you or your partner use condoms (male or female sub-type) the last time you had sexual intercourse (vaginal intercourse)? **Ukususela kuvavanyo lokuthi une-HIV, ingaba wena okanye umlingane wakho nisebenzise ikondom(eyamadoda okanye eyabafazi ilixa lokugqibela nibe nokwabelana ngesondo kwilungu langasese lowasetyhini (i-vaginal intercourse)?**	No/**Hayi** Yes/**Ewe**	0 1	
609b	Since you tested positive for HIV, did you or your partner use any method other than condom (i.e. birth control tablets/pills, injectables (Nur-Isterate or Depo-provera), loop/coil/IUD, implant, Spermicide, or female/male sterilization) the last time you had sexual intercourse (vaginal intercourse)? **Ukususela kuvavanyo lokuthi une-HIV, ingaba wena okanye umlingane wakho nisebenzise olunye uhlobo ngaphandle kwekondom(ukutsho; ipilisi zocwangciso,ukunqomfa((Nur-Isterate okanye Depo-provera) ezinye izicwangcisi) ngexesha lokugqibela nisabelana**	No**/Hayi** Yes**/Ewe**	0 1	

	ngesondo(isondo ngokwelungu langasese lwasetyhini)		`	
609c	Did you have sexual vaginal intercourse within the past 3 months? **Uyewabelene ngokwesondo ngokwelungu langasese lwasetyhini kwezinyanga zi 3 zidlulileyo?**	No/**Hayi** Yes/**Ewe**	0 1	
610	How many sexual partners have you had in the past 12 months (one year)? **Bangaphi abalingane bezesondo othe wanabo kwiinyanga ezili-12 ezigqithileyo (unyaka omnye)?**	☐☐ Number/**Inani**		
611	Which of this/these best describe/s why you did not use condom and any of these methods other than condoms listed below every time you had intercourse? **Yeyiphi yoku/yezi echaza ngeyona ndlela ilungileyo ukuba kutheni ungasebenzisanga ikhondom kunye nayiphi yezi ndlela ngaphandle kwekhondom ezidweliswe ngezantsi ngamaxa onke nisabelana ngesondo?** *Interviewer: Please read all the response options to the respondent then circle all that are applicable. Please remind respondent that you are not judging her.* ***<u>Methods other than condom/</u> Ezinye iindlela ngaphandle kwekhondom*** *Pills/birth control tablet/* ***Iipilisi/ipilisi yokulawula inzala*** *2 month (Nur-Isterate) or 3 month(Depo-provera) injectables/* ***Iinyanga ezi-2 (i-Nur-Isterate) okanye iinyanga ezi-3 (i-Depo-provera) Ezokutofa*** *Implant* ***/Isimiliselo*** *IUD/loop/coil/* ***I-IUD/i-loop/ikhoyili*** *Spermicide-(chemical foam/jelly/cream)/* ***Isibulala-madlozi***	Not available/**Ayifumaneki** Too expensive/**Ibiza kakhulu** Partner objected/**Iqabane lalile** Don't like them/**Andizithandi** Used other contraceptive/**Usebenzise ezinye izicwangciso** Didn't think it was necessary/**Andizange ndicinge ukuba kuyimfuneko** Didn't think of it/**Andizange ndicinge ngayo** Partner is HIV positive/**Iqabane linentsholongwane kaGawulayo** Don't enjoy sex with condom/**Andilonwabeli isondo nge khondom** Afraid to ask my partner to use it/**Ndiyoyika ukucela iqabane lam liyisebenzise** Drunk/used drugs/**Nxilile/usebenzisa iziyobisi** Embarrassed to used female condom/ **Ndinentloni ukusebenzisa ikhondom yabasetyhini** Your Religion/**Unqulo lwakho**	1 2 3 4 5 6 7 8 9 10 11 12 13	

	(igwebu lechiza/ijeli/amafutha okuthambisa) *Emergency contraception/morning after pill/* ***Uthintelo lwenzala lwengxakeko/ipilisi yasemva kokwabelana ngesondo*** *Female sterilization/tubal ligation/* ***Udloliso lwabasetyhini ngotyando lobugqirha/ukubotshwa kwemibhobho*** *Male sterilization/* ***Udloliso lwendoda ngotyando lobugqirha***	Other/**Okunye** …… Don't know/**Andazi** No response/**Akukho mpendulo**	66 99 100	
612	How old is your current main/regular sexual partner? **Mdala kangakanani umlingane wakho wangoku ongundoqo /wesiqhelo wokwabelana ngesondo?**	☐☐ Number (years)/**Inani/Iminyaka** If no sexual partner, please tick this box ☐		
613	To what extent do you agree or disagree with this statement: In your relationship, he (main/regular partner) supports you to use birth control method? **Uvumelana okanye awuvumelani kangakanani nale ngxelo: Kunxibelelwano lwakho, (umlingane wakho ongundoqo/wesiqhelo) ukuxhasa ukusebenzisa indlela yolawulo lwenzala?**			

Strongly Disagree/ **Andivumi ngaMandla**	Disagree/ **Andivumi**	Neither Agree/Disagree/**Akukho nanye yokuNgavumi/ukuVuma**	Agree/ **ndiyavuma**	Strongly Agree/ **Ndivume ngamandla**
				
☐	☐	☐	☐	☐

614	Have you disclosed your HIV status to your current regular partner? **Ingaba uyityhilile imo yakho ye-HIV kumlingane wakh wangoku wesiqhelo?**	No/**Hayi** Yes/**Ewe**	0 1		
615	Would you be willing to share information on the HIV status of your regular partner with me? **Ingaba ungazimisela ukwabelana nam ngolwazi ngemo ye-HIV yomlingane wakho wesiqhelo?**	No/**Hayi** Yes/**Ewe**	0 1	If No, Skip to 616	
616	What is your regular partner's HIV status? **Yeyiphi imo ye-HIV yomlingane wakho wesiqhelo?**	Positive/**Unalo usulelo** Negative/**Akanalo usulelo** Don't know/**Andaz**i	1 2 99		

Contraceptive self-efficacy: *"Please I would like you to rate each item (from 701a--d) according to how true the statement is of you". Please indicate on the diagram below by ticking the appropriate box/response.* **Ukusebenza ngempumelelo ngokwaso isithinteli senzala:** ***"Ngesicelo ndingathanda ukuba uxabise into nganye (ukusuka kuma-701a--d) ngokwendlela ingxelo inyanisekileyo kuwe". Nceda ubonise kumfanekiso ongezantsi ngokuphawula ibhokisi/impendulo echanekileyo.***

Interviewer: Self-efficacy means one's belief in one's ability to succeed in a task.

701	If you and your boyfriend were getting really heavy into sex (sexual vaginal intercourse) and moving towards intercourse and you were not protected … **Ukuba wena nomlingane wakho osisihlobo esiyinkwenkwe ningene ngamandla kukwabelana ngesondo kwilungu langasese lowasetyhini ukwabelana ngesondo kwilungu langasese lowasetyhini) yaye malunga nokwabelana ngesondo ubungakhuselekanga (oko kukuthi uthintelo lokukhulelwa)**		Not at all/ **Nakanye** 	Slightly/ **Kancinci** 	Somewhat/ **Ngenye indlela** 	Mostly/ **Kaninzi** 	Comple tely/**Ng okuphe leleyo** 
	701a	You could easily ask him if he had protection (condom) (or tell him that you didn't have a protection i.e you are not on birth control/family planning method). **Ungambuza lula nokuba unalo ukhuselo**	☐	☐	☐	☐	☐

		(okanye umxelele ukuba awunalo).					
	701b	You could ask him to use male condom or excuse yourself to put in a female condom, diaphragm/cap, or foam(i.e., chemical jellies or creams) (if you used them for birth control. **Ungamcela ukusebenzisa ikhondom yamadoda okanye uzicelele uxolo ukufaka ikhondom yabasetyhini, i-diaphragm/i-cap, okanye igwebu (oko kukuthi, iijeli zechiza okanye amafutha okuthambisa) (ukuba uzisebenzile ukulawula inzala.**	☐	☐	☐	☐	☐
	701c	You could tell him you were on the pill/birth control tablet, 2 months (Nur-Isterate/3months (Depo-provera) injectables, inplants or had an IUD/loop/coil (if you used them for birth control). **Ungamxelela ukuba ukwipilisi /ipilisi yokulawula inzala, iinyanga ezi-2 (i-Nur-Isterate/iinyanga ezi-3 (i-Depo-provera) Ezokutofa, izimiliselo okanye une -IUD/i-loop/ikhoyili (ukuba uzisebenzisela ulawulo lwenzala).**	☐	☐	☐	☐	☐
	701d	You could stop things before intercourse, if you couldn't bring up the subject of protection. **Ungamisa izinto phambi kokwabelana ngesondo, ukuba awunakho ukuvelisa indaba yokhuselo**.	☐	☐	☐	☐	☐

Contraceptive service provision: "Please I would like to ask if you have received any of the following birth control services in government clinic(s) since you tested positive for HIV/ **Ubonelelo lwenkonzo yothintelo lwenzala: "Ngesicelo ndingathanda ukubuza nokuba ufumene naziphi zeenkonzo zolawulo lwenzala ezilandelayo kwiikliniki zikarhulumente ukususela xa uvavanyo luthi une-HIV (Imibuzo yama-801-804**).

Interviewers: Please note that the respondents might have received elsewhere but this research is only interested in their views of government clinics.

801				
	a) Have you received advice about contraception/birth control in government clinic(s) since testing positive? **Ingaba ufumene icebiso malunga nesithinteli senzala/ulawulo lwenzala ukususela uvavanyo luthe unosulelo?**	No/**Hayi** Yes/**Ewe**	0 1	If No, skip to 802
	b) If yes (to item 801a), was the advice offered in this clinic? **Ukuba ngu-ewe (kwinqaku lama-801a), ingaba icebiso linikelwe kule kliniki?**	No/**Hayi** Yes/**Ewe**	0 1	802
	c)When was the most recent time you received this advice? **Belinini elona xesha lakutshanje ufumene eli cebiso?** *Interviewer: Please read all the response options to the respondent then circle only one that is applicable*	Last clinic visit day**/Yimini yokuqhibela ndikunye nani namhlanje ekliniki** (Date please if yes: Within past month/ **Kwithuba lenyanga egqithileyo** Within past 3 months/ **Kwithuba leenyanga ezi-3 ezigqithileyo** Within past 12 month/ **Kwithuba leenyanga ezili-12 ezigqithileyo** More than past 12 months/ **Ngaphezulu kweenyanga ezili-12 ezigqithileyo**	1 2 3 4 5	
	d) Who provided this most recent birth control advice received? **Ngubani onikele ngeli cebiso lolawulo lwenzala elona lutsha lufunyenweyo?**	Doctor/ **Ugqirha** Nurse/**Umongikazi** Adherence counsellor/ **Umcebisi wokubambelela** Pharmacist/**Umphithikezi-mayeza***(Interviewer: tick this if not provided by*	1 2 3 4	

	Interviewer: Please read all the response options to the respondent then circle only one that is applicable	*doctor/nurse/counsellor during consultation and patient received service only at the pharmacy during medication requisition/refill)* Other (Specify)/**Omnye (Cacisa)**	 5	
	e) How often did your HIV care provider in this clinic talk to you about birth control? **Kukaninzi kangakanani umnikeli wakho wenkathalelo ye-HIV kule kliniki ethethe nawe malunga nolawulo lwenzala?** *Interviewer: Please read all the response options to the respondent then circle only one that is applicable*	Every time/**Lonke ixesha** Almost every time/**Phantse lonke ixesha** Sometimes/**Ngamanye amaxesha** Never/**Nakanye** Don't know/**Andazi**	1 2 3 4 5	
	f)What did your provider talk about when providing these services? **Umnikeli wakho wenkonzo uthethe malunga nantoni xa ebonelela ngezi nkonzo?** *Interviewer: Please read all the response options to the respondent then circle all that are applicable*	Abstinence/**Ukuzila** Need to use birth control/ **Imfuneko yokusebenzisa ulawulo lwenzala** Motivation to prevent pregnancy/**Inkuthazo yokuthintela ukukhulelwa** Choosing methods/**Ukukhetha iindlela** Proper use of method(s)/**Usetyenziso olululo lwenkqubo** Switching method/**Ukutshintsha indlela** What to do about missed pills/**Into emayenziwe ngokuphosa iipilisi** Clinic policies about contraception/**Imigaqonkqubo yekliniki yothintelo lwenzala**	1 2 3 4 5 6 7 8	

		Others (specify)/**Ezinye (cacisa)…..**	66	
802	a) Have you received condom provision in government clinic(s) since testing positive? **Ingaba ufumene ubonelelo lweekhondom kwikliniki karhulumente ukususela kuvavanyo lokuthi unosulelo?**	No/**Hayi** Yes/**Ewe**	0 1	If No, skip to 803
	b) If yes (to item 802a), was the condom provision offered in this clinic? **Ukuba ngu-ewe (kwinqaku lama-802a), ingaba ubonelelo lwekhondom belinikelwa kule kliniki?**	No/**Hayi** Yes/**Ewe**	0 1	
	c) When was the most recent time you received this service-condom provision? **Leliphi elona xesha lakutshanje ofumene ngalo le nkonzo yobonelelo lwekhondom?** *Interviewer: Please read all the response options to the respondent then circle only one that is applicable*	Last clinic visit day**/Yimini yokuqhibela ndikunye nani namhlanje ekliniki (**Date please if yes: Within past month/ **Kwithuba lenyanga egqithileyo** Within past 3 months/ **Kwithuba leenyanga ezi-3 ezigqithileyo**	1 2 3 4	

	d) Which provider gave you this most recent service- condom provision? **Ngowuphi umboneleli wenkathalelo ye-HIV okunike kutshanje inkonzo yobonelelo lweekhondom?** *Interviewer: Please read all the response options to the respondent then circle only one that is applicable*	Within past 12 month/ **Kwithuba leenyanga ezili-12 ezigqithileyo** More than past 12 months/ **Ngaphezulu kweenyanga ezili-12 ezigqithileyo** Doctor/ **Ugqirha** Nurse/**Umongikazi** Adherence counsellor/ **Umcebisi wokubambelela** Pharmacist/**Umphithikezi-mayeza***(Interviewer: tick this if not provided by doctor/nurse/counsellor during consultation and patient received service only at the pharmacy during medication requisition/refill)* Other (Specify)/**Omnye (Cacisa)**	5 1 2 3 4 5	
803	a) Have you received birth control/family planning method provision other than condom in government clinic(s) since testing positive? (i.e. birth control tablets/pills, injectables (Nur-Isterate or Depo-provera), loop/coil/IUD, implant, etc **Ingaba ufumene ubonelelo lolawulo lwenzala /indlela yocwangciso losapho ngaphandle kwekhondom kwiikliniki zikarhulumente ukususela kuvavanyo lokuthi unosulelo? (oko kukuthi ipilisi yokulawula inzala/iipilisi, izitofu (i-Nur-Isterate okanye i-Depo-provera), i-loop/ikhoyili/i-IUD, isimiliselo, njlnjl.** b) If yes (to item 803b), was birth control/family planning method provision (other than condom) offered in this clinic?	No/**Hayi** Yes/**Ewe** No/**Hayi** Yes/**Ewe**	0 1 0 1	If No, skip to 804

	Ukuba ngu-ewe (kwinqaku lama-803b), ingaba ulawulo lwenzala /unikelo locwangciso losapho (ngaphandle kwekhondom) enikelwa kule kliniki?			
	c) When was the most recent time you receive this service- birth control/family planning method provision other than condom? **Leliphi elona xesha lakutshanje ofumene ngalo le nkonzo – unikelo lolawulo lwenzala /indlela yesicwangciso sosapho ngaphandle kwekhondom?** *Interviewer: Please read all the response options to the respondent then circle only one that is applicable*	Last clinic visit day**/Yimini yokuqhibela ndikunye nani namhlanje ekliniki(**Date please if yes: Within past month/ **Kwithuba lenyanga egqithileyo** Within past 3 months/ **Kwithuba leenyanga ezi-3 ezigqithileyo** Within past 12 month/ **Kwithuba leenyanga ezili-12 ezigqithileyo** More than past 12 months/ **Ngaphezulu kweenyanga ezili-12 ezigqithileyo**	1 2 3 4 5	
	d) Which provider gave you this most recent service- birth control/family planning method provision other than condom? **Ngowuphi umboneleli wenkathelelo ye-HIV okunike oku kutshanje, inkonzo – yolawulo lwenzala /indlela yokucwangcisa usapho ngaphandle kwekhondom?** *Interviewer: Please read all the response options to the respondent then circle only one that is applicable*	Doctor/ **Ugqirha** Nurse/**Umongikazi** Adherence counsellor/ **Umcebisi wokubambelela** Pharmacist/**Umphithikezi -mayeza***(Interviewer: tick this if not provided by doctor/nurse/counsellor during consultation and patient received service only at the pharmacy during medication requisition/refill)* Other (Specify)/**Omnye (Cacisa)**	1 2 3 4 5	
804	a) Have you received dual method provision (condom plus any other method such as pills/birth control tablets, 2 months (Nur-Isterate)/3 months (depo-provera) injectables, IUD/loop/coil, or inplants) in government clinic(s) since testing positive?	No/**Hayi** Yes/**Ewe**	0 1	If No, skip to

	Ingaba ufumene ubonelelo lweendlela ezimbini (ikhondom kunye nayiphi enye indlela efana neepilisi/iipilisi zokulawula inzala, iinyanga ezi-2 (ze-Nur-Isterate)/iinyanga ezi-3 (ze-depo-provera) Izitofu, i-IUD/i-loop/ikhoyili, okanye izimiliselo) kwiikliniki zikarhulumente ukususela kuvavanyo lokuthi unosulelo?			805
	b) If yes (to item 804a), was dual method provision offered in this clinic? **Ukuba ngu-ewe (kwinqaku lama-804a), ingaba ubonelelo lweendlela ezimbini lunikelwe kule kliniki?**	No/**Hayi** Yes/**Ewe**		
	(Interviewer: please remind respondent what is dual method) b) When was the most recent time you received this service- dual method provision? **Leliphi elona xesha lakutshanje ofumene ngalo inkonzo yolu nikelo lweendlela ezimbini?** *Interviewer: please remind respondent what is dual method. Please read all the response options to the respondent then circle only one that is applicable*	Last clinic visit day**/Yimini yokuqhibela ndikunye nani namhlanje ikliniki(**Date please if yes: Within past month/ **Kwithuba lenyanga egqithileyo** Within past 3 months/ **Kwithuba leenyanga ezi-3 ezigqithileyo** Within past 12 month/ **Kwithuba leenyanga ezili-12 ezigqithileyo** More than past 12 months/ **Ngaphezulu kweenyanga ezili-12 ezigqithileyo**	1 2 3 4 5	
	d) Which provider gave you this most recent service- dual method provision? **Ngowuphi umnikeli wenkonzo ye-HIV okubonelele ngale nkonzo yakutshanje yeendlela ezimbini?** *Interviewer: please remind respondent what is dual method. Please read all the response options to the respondent then circle only one that is applicable*	Doctor/ **Ugqirha** Nurse/**Umongikazi** Adherence counsellor/ **Umcebisi wokubambelela** Pharmacist/**Umphithikezi-mayeza***(Interviewer: tick this if not provided by doctor/nurse/counsellor during consultation and patient received service only at the pharmacy*	1 2 3 4	

		during medication requisition/refill) Other (Specify)/**Omnye (Cacisa)**	5	

Contraceptive preferences, quality & satisfaction: "Please I would like to ask you about your impressions/feelings of the contraceptive/birth control services in this clinic. Once again, please note that none of the care providers in this clinic will be aware of the information you share in this interview and anything you say will not affect the care you receive".
Please tell me how much you disagree or agree with the following statements about your **most recent contraceptive**/birth control consultation visit or consultation for contraception services during attending HIV-related services in this clinic. Do you Strongly Disagree, Disagree, have Mixed Feelings, Agree or Strongly Agree? You can use the face the best indicates your opinion.

Izithinteli zenzala ezikhethwayo, udidi nokwaneliseka: "Ngesicelo ndingathanda ukukubuza malunga nezimvo/iimbilini zeenkonzo zothintelo lwenzala /ulawulo lwenzala kule kliniki. Kwakhona, nceda uqaphela ukuba akukho namnye wabanikeli benkathalelo kule kliniki abaya kuqonda ngolwazi owabelana ngalo kolu dliwano-ndleba yaye nantoni oyithethayo ayinakuchaphazela inkathalelo oyifumanayo".
Nceda undixelele ukuba uvumelana okanye awuvumelani kangakanani neengxelo ezilandelayo malunga neenkonzo zakho ezona zakutshanje zesithinteli /utyelelo lokubonisana ngolawulo lwenzala okanye ukubonisana ngeenkonzo zothintelo ngexesha lokuya kwiinkonzo ezinxulumene ne-HIV kule kliniki. Ingaba awuVumi ngaMandla, AwuVumi, uneZimvo eziXubeneyo, uyaVuma okanye uyaVuma ngaMandla? Ungasebenzisa ubuso obona bubonisa uluvo lwakho.

Statements *Interviewer: Please read out these sentences before each question (805-813):* Do you Strongly Disagree, Disagree, have Mixed Feelings, Agree or Strongly Agree with the statement that (please state each statement from items 805 through 813) during your **most recent contraceptive**/birth control consultation visit or consultation for contraception services in this clinic?	Strongly Disagree/ **Andivumi ngaMandla** 	Disagree/ **Ndiyavuma** 	Mixed Feelings/ **Izimvo ezixubeneyo** 	Agree/**Andivumi** 	Strongly Agree/ **Andivumi ngaMandla** 

Ingaba awuVumi ngaMandla, AwuVumi, uneZimvo eziXubeneyo, uyaVuma okanye uyaVuma ngaMandla *nengxelo yokuba (nceda xela ingxelo nganye evela kumanqaku ama-805 kwama-813) ngethuba lotyelelo lokubonisana elona lakutshanje lesithinteli senzala /lolawulo lwenzala okanye iikonzo zokubonisana zesithinteli ngethuba leenkonzo ezinxulumene ne-HIVkule kliniki? Ungasebenzisa ubuso obona bubonisa uluvo lwakho* You can use the face the best indicates your opinion**.Gebruik gerus die gesiggie wat die beste aandui hoe jy voel.**						
805	The staff were friendly **Abasebenzi bebenobubele**	☐	☐	☐	☐	☐
806	The nurses and doctors listened to you **Abongikazi noogqirha bakuphulaphule**	**STRONGLY DISAGREE** ☐	**DISAGREE** ☐	**MIXED FEELING** ☐	**AGREE** ☐	**STRONGLY AGREE** ☐
807	Young girls living with HIV requesting contraception are treated with respect **Amantombazana aselula aphila ne-HIV acela isithinteli senzala aphathwa ngembeko**	☐	☐	☐	☐	☐
808	Information provided about birth control methods was understandable and sufficient (for examples, the degree/extent to which different methods is successful in achieving birth control, how to use a particular method) **Ulwazi olunikelwa malunga neendlela zolawulo lwenzala bezivakala yaye zanelisa (ukwenza imizekelo umphakamo /ubungakanani obo iindlela ezahlukeneyo zinempumelelo ekuphumezeni ulawulo lwenzala, indlela yokusebenzisa uhlobo oluthile)**	☐	☐	☐	☐	☐
809	The staff who work in this clinic do not make efforts to find out	☐	☐	☐	☐	☐

	your needs regarding birth control/contraception (including birth control advice and provision) without you asking. **Abasebenzi abasebenza kule kliniki abazenzi iinzame zokufumanisa iintswelo zakho malunga nolawulo lwenzala/ isithinteli senzala (kuquka icebiso ngolawulo lwenzala nonikelo) ngaphandle kokukubuza.**					
810	Your consultation was private (i.e. service providers and staff respect your privacy) **Ukubonisana kwakho bebubucala (oko kukuthi abanikeli benkonzo nabasebenzi bahlonela ubuwedwa bakho)**	**STRONGLY DISAGREE** ☐	**DISAGREE** ☐	**MIXED FEELING** ☐	**AGREE** ☐	**STRONGLY AGREE** ☐
811	Had to wait for a long time to be seen (i.e. time spent in the waiting room before a nurse or doctor is seen for consultation regarding contraception) after you arrived at the clinic **Ndilinde ixesha elide ukuze ndibonwe (oko kukuthi ixesha olichithe kwigumbi lokulinda phambi kokuba umongikazi okanye ugqirha abonwe malunga nokubonisana ngokuphathelele kuthintelo lwenzala) emva kokufika ekliniki**	☐	☐	☐	☐	☐
812	The clinic has the birth control method you needed **Ikliniki inendlela yolawulo lwenzala oyifunayo**	☐	☐	☐	☐	☐
813	You would recommend this clinic to a friend **Ungayincoma le kliniki kumhlobo**	☐	☐	☐	☐	☐
814	Services were organized **Iinkonzo ziququzelelwa**	☐	☐	☐	☐	☐
815						

	The waiting room(s) was/were too crowded **Amagumbi okulinda agcwele kakhulu**	☐	☐	☐	☐	☐
816	One felt comfortable being around other patients who were there? **Ingaba umntu uziva ekhululekile xa ephakathi kwezinye izigulana ezikhoyo?**	☐	☐	☐	☐	☐
817	The family planning/birth control care/services you received was directed to your needs and preferences (e.g., able to see same provider in subsequent clinic visits, provider's gender, provider's age, methods of contraception) **Ukhathalelo ngocwangciso olufumanayo kulekliniki luqonde ngqo kwimfuno zakho(umz,uyakwazi ukubonana nomboneleli omnye ngotyelelo lwarhoqo kulekliniki, isini somboneleli,ubudala bomboneleli,indlela zocwangciso)**	**STRONGLY DISAGREE** ☐	**DISAGREE** ☐	**MIXED FEELING** ☐	**AGREE** ☐	**STRONGLY AGREE** ☐
818	Before providing you a with birth control method, a staff in the clinic or doctor's office talked to you about a variety of possible methods of birth control **Phambi kokukunikela ngendlela yolawulo lwenzala, umsebenzi ekliniki okanye kwiofisi kagqirha uthethe nawe malunga neentlobo ezinokubakhona zeendlela zolawulo lwenzala**	No/**Hayi** 0 Yes/**Ewe** 1				

819	Have you Ever been pressured by a staff in the clinic or doctor's office to use or continue to use a particular method of birth control when you would have rather used a particular method or no method at all. **Ingaba wakhe wanyanzeliswa ngumsebenzi kwikliniki okanye kwiofisi yogqirha ukusebenzisa okanye ukuqhubeka ukusebenzisa uhlobo oluthile lolawulo lwenzala xa ubunokukhetha ukusebenzisa uhlobo oluthile okanye kungabikho naluphi uhlobo kwaphela.**	No/**Hayi** 0 Yes/**Ewe** 1 ***If Yes, Please ask which method she was pressured to use:*** …… …… …… …… …… …… …… …… ..	

Please can you respond to the following questions about your a) experience during your last clinic visit (this same clinic) for contraception/family planning/birth control, and b) preferences for contraceptive services?
Ngesicelo ingaba ungaphendula imibuzo elandelayo malunga) namava ngethuba lotyelelo lwakho lokugqibela ekliniki (le kliniki yesiqhelo) malunga nesithinteli senzala/ucwangciso losapho/ulawulo lwenzala, kunye b) Iinkonzo zokhetho zesithinteli senzala.

901	Which birth control method did you plan to get during your last clinic visit for birth control that you did not get? **Yeyiphi indlela yolawulo lwenzala obuceba ukuyifumana ngethuba lotyelelo lwakho lokugqibela ekliniki malunga nolawulo lwenzala ongalufumananga?**	Please specify/**Nceda ucacise**…….		
902	Able to see same provider for services related to birth control/family planning at subsequent clinic visits? **Ingaba ndinakho ukubona umnikeli wenkonzo ofanayo malunga neenkonzo ezinxulumene nolawulo lwenzala/ucwangciso losapho kumatyelelo alandelayo ekliniki?**	No/**Hayi** Yes/**Ewe** Not sure/**Andiqinisekanga**	1 2 88	
903	Please indicate from these photos the contraceptive/birth control methods that have been discussed or explained to you in this clinic? **Nceda ubonise ukusuka kwezi foto iindlela zesithinteli senzala**	Condoms with another method Yes ☐ No ☐ **Ikhondom kunye nayiphi enye indlela engentla** Pills/birth control tablets Yes ☐ No ☐ **Iipilisi/ipilisi yokulawula inzala**	Yes No 1 0 1 0	

	/indlela zolawulo lwenzala ekuxoxwe ngazo okanye ezichaziweyo kule kliniki? *Interviewer: Please read all the response options to the respondent then tick the appropriate boxes that apply.*	2 months (Nur-Isterate) or 3 months (depo-provera) injectable: **Iinyanga ezi-2 (i-Nur-Isterate) okanye iinyanga ezi-3 (i-Depo-provera) Ezokutofa** ☐ Yes ☐ No Male condom/**Ikhondom yamadoda** Yes ☐ No ☐ Female condom/**Ikhondom yabasetyhini** Yes ☐ No ☐ Implants/**Isimiliselo** Yes ☐ No ☐ Chemical foam/jell/cream/**Isibulala-madlozi (igwebu lechiza/ijeli/amafutha okuthambisa)** Yes ☐ No ☐ IUD/loop/coil/**I-IUD/i-loop/ikhoyili** Yes ☐ No ☐ Others (specify)/**Omnye (Cacisa).....**	1 0 1 0 1 0 1 0 1 0 1 0	
904	Is it important to you to see the same service provider (doctors, nurses) at every visit for contraception/birth control, or do you not care? **Kubalulekile ukubona umnikeli wenkonzo ofanayo (oogqirha, abongikazi) kwelinye nelinye utyelelo lwesithinteli/ulawulo lwenzala, okanye awukhathali?** *Interviewer: Please read all the response options to the respondent then circle only one that is applicable*	Important/**Kubalulekile** Unimportant/**Akubalulekanga** Don't care either way/**Andikhathali nangayiphi indlela**	1 2 3	
905	Would you prefer to have contraception/birth control service provided by : **Ingaba ungakhetha ukuba nothintelo lwenzala/inkonzo yolawulo lwenzala enikelwa yinkqubo yenkonzo enikelwa :** *Interviewer: Please read all the response options to the respondent then circle only one that is applicable*	A female/owasetyhini? A male/Iqabane eliyindoda? Does not matter either way/Ayinamsebenzi nangeyiphi indlela?	1 2 3	

906	Would you prefer to have contraception/birth control service provided by someone who is: **Ingaba ungathanda ukuba isithinteli senzala/ ulawulo lwenkonzo enikelwa ngomnye umntu:** *Interviewer: Please read all the response options to the respondent then circle only one that is applicable*	18-19 years old/**Iminyaka yobudala eli-18-19** 20-24 years old/**Iminyaka yobudala engama-20-24** More than 25 years old/**Ngaphezulu kuneminyaka engama-25** Don't know/**Andazi** Other (specify**)/Enye (cacisa)…..**	1 2 3 4 66	
907	If you had your choice, would you prefer to get contraception/birth control services at: **Ukuba ubunokhetho lwakho, ubungakhetha ukufumana iinkonzo zothintelo lwenzala/ulawulo lwenzala apha:** *Interviewer: Please read all the response options to the respondent then circle only one that is applicable*	A place that provides care for only young persons (15-24 years)/**Indawo enikela ngenkathalo kubantu abancinci kuphela (iminyaka eli-15-24 yobudala)?** A place that provides care for all ages but has a dedicated clinic day for young persons**/Indawo ebonelela ngenkathalo ukwenzela yonke iminyaka kodwa enosuku lwekliniki olukhethekileyo labantu abaselula?** HIV youth support group/**Iqela lenkxaso labatsha abane-HIV?** General clinic (all ages clinic including adults)/**Ikliniki kawonke wonke (yonke iminyaka iquka?** School-based clinic/**Ikliniki esekwe esikolweni?** No preference/**Ingaba alukho ukhetho?** Don't know/**Andazi**	1 2 3 4 5 6 99	
908	What is/are your preferred methods of contraception? **Yeyiphi/zeziphi iindlela zothintelo lwenzala ubunokuzikhetha?** *Interviewer: Please read all the response options to the respondent then circle all that are applicable*	Pills/birth control tablets/**Iipilisi/ipilisi yokulawula inzala** 2 months (Nur-Isterate) or 3 months (Depo-provera) injectable/**Iinyanga ezi-2 (i-Nur-Isterate) okanye iinyanga ezi-3 (i-Depo-provera) Ezokutofa** Emergency contraception/**Uthintelo lwenzala lwengxakeko/ipilisi yasemva kokwabelana ngesondo** Male condom/ **Ikhondom yamadoda** Female condom/ **Ikhondom yabasetyhini** Implants/**Isimiliselo** Chemical foam/jell/cream/**Isibulala-madlozi (igwebu lechiza/ijeli/amafutha okuthambisa)** IUD/loop/coil/**I-IUD/i-loop/ikhoyili** Condom with another method/**Ikhondom kunye nayiphi enye indlela engentla** (Interviewer: Please write out the method……	1 2 3 4 5 6 7 8 9 66	

		Others (specify)/**Omnye (Cacisa).....** No preference/**Azikho ezikhethwayo** Don't know/Andazi	44 99	
909	Why do you prefer these methods? **Kutheni ukhetha ezi ndlela?**	Specify please/**Cacisa ngesicelo:** **Interviwer: Please write out each method and the reason(s) for each method** 1…… 2……. 3…… 4…….. 5……		

Overall satisfaction: Please think back about all your visits to this clinic for contraception. "Please I would like to ask you about how satisfied you are with the contraceptive/birth control services in this clinic. Once again, please note that none of the care providers in this clinic will be aware of the information you share in this interview".

Ukwaneliseka kukonke: Nceda ucinge ngemva ngawo onke amatyelelo kule kliniki. "Ngesicelo ndingathanda ukukubuza malunga nokuthi waneliseke kangakanani ngeenkonzo zesithinteli, zolawulo lwenzala kule kliniki.. Kwakhona, nceda uqaphele ukuba akukho namnye wabanikeli benkonzo kule kliniki abaya kuqonda malunga nolwazi owabelene ngalo kolu dliwano-ndlebe".

910	In general, how would you rate your satisfaction with the quality (**i.e standard of care/degree of excellence)** of contraception/birth control services you received in this clinic?	Please indicate your opinion by ticking the appropriate box. You can use the face that best indicates your opinion. **Nceda ubonise uluvo lwakho ngokuphawula ibhokisi elichanekileyo. Ungasebenzisa ubuso obubonisa ngeyona ndlela ingcono yoluvo lwakho.**

	Ngokubanzi, ungakuxabisa njani ukwaneliseka kwakho ziinkonzo zesithinteli senzala/ ulawulo lwenzala ezamkelwa kule kliniki?	Very dissatisfied **/Andikholisekanga kakhulu**  ☐	Dissatisfied/ **Andikholisekanga**  ☐	Neither Dissatisfied nor Satisfied/ **Akukhonanye Andikholisekanga okanye uKwanelisek**  **a** ☐	Satisfied/ **Ndanelisekile**  ☐	Very Satisfied/ **Ndanelisekile kakhulu**  ☐

Clinic stigma"Please I would like to ask you about your impressions/feelings of the contraceptive/birth control services in this clinic. Once again, please note that none of the care providers in this clinic will be aware of the information you share in this interview".
Considering your most recent contraceptive/birth control consultation visit or consultation for contraception services during attending HIV-related services in this clinic, please tell me how much you agree or disagree with the following statements I read to you. You can use the face the best describes your opinion.

Isiphako sekliniki "Ngesicelo ndithanda ukukubuza malunga nezimvo/iimbilini zakho zeenkonzo zesithintelo senzala/ ulawulo lwenzala kule kliniki. Kwakhona, nceda uqaphele ukuba akukho namnye wabanikeli benkonzo kule kliniki abaya kuqonda ulwazi owabelene ngalo kolu dliwano-ndlebe".
Xa ucinga ngolona tyelelo lokubonisana lakutshanje lwesithintelo senzala/uthintelo lwenzala/ ulawulo lwenzala okanye ukubonisana ngeenkonzo zokubonisana malunga neenkonzo zokubonisana malunga nesithinteli senzala kule kliniki ngethuba leenkonzo ezinxulumene ezijongene ne-HIVkule kliniki, nceda undixelele ukuba uvumelanaa kangakanani okanye ukungavumelani neengxelo ezilandelayo endikufundela zona. Ungasebenzisa ubuso obuchaza ngokugqibeleleyo uluvo lwakho.

		Strongly Agree/ **Andivumi ngaMandla** 	Agree/ **Andivumi** 	Mixed feelings/ **Izimvo ezixubeney o** 	Disagree/ **ndiyavuma** 	Strongly Disagree/ **Andivumi ngaMandla** 
1001	Others can find out when you come to this clinic for contraception/birth control **Abanye banokufumana xa uza kule kliniki malunga nesithinteli senzala/ulawulo lwenzala**	☐	☐	☐	☐	☐
1002	Others can find out your HIV status when you come to this clinic for contraception/birth control/family planning. **Abanye bangafumana ulwazi ngemo yakho ye-HIV xa usiza kule kliniki malunga nesithintelo senzala, ulawulo lwenzala/indlela yocwangciso losapho ngaphandle kwemvume yakho**	☐	☐	☐	☐	☐
1003	**Staff members at this clinic might tell other people that you come for contraception/birth control/family planning method without your permission.** **Amalungu abasebenzi kule kliniki bangaxelela abanye abantu ukuba uza**	☐	☐	☐	☐	☐

	malunga nesithinteli senzala/ulawulo lwenzala/ucwangciso losapho ngaphandle kwemvume yakho.					

Thank you for your participation.

Interviewer signature/date……

Appendix 5: Exit Interview Questionnaire for Adolescent Girl Clients (14-19 years) in HIV Services.

[1]**Instruction to field staff: Tick the appropriate consent form completed for this respondent.** Please note that participation is voluntary and consent is a must. A parent's/legal guardian's written consent is required for all participants aged 14-17 years. Informed consent can only be completed after a participant has been informed about the facts of the study using the attached information sheet (see appendix 2), and demonstrated understanding of the information. **Please tick the appropriate boxes below:** Consent form for girl 18 or 19 years: Yes ☐ No ☐ Parent/Guardian consent for girl 14 to 17 years: Yes ☐ No ☐ Assent form for girl 14 to 17 years: Yes ☐ No ☐	

[2]**Instruction to field staff:** Please tell every participant that her opinion and views to the questions are very important. Inform participants to answer every question carefully and honestly. In addition, tell participants that their answers will help in the development of better health services.

[2]**Instruksie aan veldwerker: Verduidelik asseblief aan elke deelnemer dat haar mening en sienings oor die vrae baie belangrik is. Vra deelnemers om elke vraag sorgvuldig en eerlik te beantwoord. Noem ook dat hulle antwoorde gesondheidsdienste sal help verbeter.**

Interviewer ID number: ☐☐

Participant Study number: ☐☐☐

Study clinic's code (please circle appropriate code below):

01: Gugulethu CHC 02: Nyanga CHC 03: Heidveld CHC 04: Brown Farms CHC
05: Mitchells Plain 06: Cross roads CHC 07: Khayelitsha (site B) 08: Michael M. CHC
09: Site B youth clinic 10: Site C Youth Clinic 11: Nolungile CHC] 12: Vuyani Clinic
13: Mzamomhle Clinic 14: Weltevreden Valley Clinic 15: Kuyasa Clinic 16: Mathew Goniwe Clinic
17: Town 2 Clinic

Language of interview (please circle appropriate box below)

English ☐ isiXhosa ☐ Afrikaans ☐

Date of interview: ☐☐ ☐☐ ☐☐☐☐
Day Month Year

No	Questions	Responses	Cod-ing	Skip
Section 1: Socio-demographic				
101	How old were you at your last birthday? **Hoe oud het jy met jou vorige verjaardag geword?**	14 15 16 17 18 19	1 2 3 4 5 6	
102	What is your date of birth? **Wat is jou geboortedatum?**	☐☐ ☐☐ ☐☐☐☐ Day/**Dag** Month/**Maand** Year/**Jaar**		

		Write 77 for day or 88 for month or 9999 for year if unknown		
103	What is the highest level of grade you have completed or what level of school are you presently? **Wat is die hoogste skoolgraad wat jy voltooi het, of in watter graad is jy tans?** *Interviewer: Tick only one that applies*	Grade/**Graad** 1 Grade/**Graad** 2 Grade/**Graad** 3 Grade/**Graad** 4 Grade/**Graad** 5 Grade/**Graad** 6 Grade/**Graad** 7 Grade/**Graad** 8 Grade/**Graad** 9 Grade/**Graad** 10 Grade/**Graad** 11 Grade/**Graad** 12 College/**Kollege** University/**Universiteit** Never went to school/**Is nooit skool toe nie** Not known/**Onbekend**	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 99	
104	Currently, do you work for pay (i.e for money)? **Werk jy tans teen betaling (d.w.s. vir geld)?**	No/**Nee** Yes/**Ja**	0 1	
105	In the household/home where you currently live, do you have access to: **Het jy in die huishouding/huis waar jy tans woon toegang tot:** *Interviewer: Please read all the response options to the respondent then tick the appropriate boxes that apply.*	A television/**... 'n televisie?** Yes ☐ No ☐ A landline/**... 'n landlynfoon? Yes** ☐ No ☐ Own cellular phone/**... 'n eie selfoon?** Yes ☐ No ☐ A computer/ **... 'n rekenaar?** Yes ☐ No ☐ A refrigerator/ **... 'n yskas?** Yes ☐ No ☐ A car or truck/ **... 'n motor of bakkie?** Yes ☐ No ☐ A motorcycle/scooter/**... 'n motorfiets/bromponie?** Yes ☐ No ☐ A clothes washing machine/... 'n klerewasmasjien? Yes ☐ No Piped water into house/**... kraanwater in die huis?** Yes ☐ No ☐ Flush toilet not shared with other households/**... 'n spoeltoilet wat jy nie met ander huishoudings hoef te deel nie?** Yes ☐ No ☐	Yes No 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0	
106	To which faith/religion do you belong?	None/**Geen** Islam	1 2	

	Tot watter geloof/godsdiens behoort jy? *Interviewer: Please note below: Atheism/**Ateïsme:** disbelief in the existence of God or gods/* ***Glo nie in die bestaan van God of gode nie.*** *Agnosticism/**Agnostisisme: doubting whether or not God exists/ Twyfel of God bestaan.*** *Interviewer: Tick only one that applies*	Pentecostal/**Pinkster** Roman catholic/**Rooms-Katoliek** Protestant-Anglican, Methodist etc/**Protestants – Anglikaan, Metodis, ens.** Afrikaanse/**Afrikaans** Protestantse Kerk Traditional African belief/**Tradisionele Afrikageloof** Atheism**/Ateïsme** Agnosticism/**Agnostisisme** Other (specify)/**Ander (spesifiseer)**….....	3 4 5 6 7 8 9 66 77	
107	With whom do you live/Met wie woon u? *Interviewer: Please read all the response options to the respondent then circle only one that is applicable.*	Live alone/**Lewe alleen** Live with parent(s)/**Lewe met ouer (s)** Live with other relatives/**Lewe met ander familielede** Live with male partner or married/**Lewe met manlike lewensmaat of getroude** Live with others (i.e friends/peers, dormitory)/**Lewe met ander (d.w.z vriende / eweknieë, koshuis)**	1 2 3 4 5	
108	What is the highest level of education of the person who assumes the most responsibility in caring for you? **Hoe ver het die persoon geleer wat die grootste verantwoordelikheid vir jou versorging aanvaar?**	Never went to school/**Is nooit skool toe nie** Primary (grade 7)/**Laerskool (graad 7)** High school (grade 12)/**Hoërskool (graad 12)** College/**Kollege** University/**Universiteit** Unknown/**Onbekend** Don't have caregiver/**Het nie so iemand nie**	1 2 3 4 5 99 910	
109	If you come straight from the home where you currently live, how long does it normally take you to get to this clinic? **Hoe lank duur dit om reguit van jou blyplek tot by hierdie kliniek te kom?**	Minutes ☐☐☐		

110	Have you ever had a glass of beer, wine, or a shot of liquor (not including while with your family at a banquet or celebration)? **Het u al ooit 'n glas bier, wyn, of 'n dop van drank (nie insluitend terwyl u saam met gesin by 'n banket of viering) was?**	No ☐ Yes ☐	0 1	
111	Have you ever smoked cigarette? **Het u al ooit n sigaret gerook ?**	No ☐ Yes ☐	0 1	
HIV service use				
201	What day, month and year did you enrol in this clinic for HIV care? **Kan jy die dag, maand en jaar onthou toe jy vir MIV-sorg by hierdie kliniek geregistreer het?** *Interviewer: Write approximate month and year if exact time not known*	☐☐ ☐☐ ☐☐☐☐ Day/**Dag** Month/**Maand** Year/**Jaar** Write 77 for day or 88 for month or 9999 for year if unknown		
202	Why did you decide to choose this clinic for HIV care/services? **Hoekom het jy hierdie kliniek vir MIV-sorg/-dienste gekies?** *Interviewer: Please read all the response options to the respondent then tick the appropriate boxes that apply.*	Availability of ART? Yes/**Ja** ☐ No/**Nee** ☐ Close distance to residence? Yes/**Ja** ☐ No/**Nee** ☐ Short waiting time? Yes/**Ja** ☐ No/**Nee** ☐ Friendliness of providers? Yes/**Ja** ☐ No/**Nee** ☐ Attends to only youth? Yes/**Ja** ☐ No/**Nee** ☐ Confidentiality and privacy? Yes/**Ja** ☐ No/**Nee** ☐ Possibility to receive contraceptive services (counselling, contraception)? Yes/**Ja** ☐ No/**Nee** ☐ Referred/transferred from other clinic? Yes/**Ja** ☐ No/**Nee** ☐ Recommended by friend/parent/family? Yes/**Ja** ☐ No/**Nee** ☐ Others (specify)……..	Yes No 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0	

203	Please can you tell me, when you tested positive for HIV? **Kan jy my asseblief sê wanneer jy positief getoets het vir MIV?** *Interviewer: Write approximate month and year if exact time not known.*	At Birth (mother to child): Yes ☐ No ☐ If not at birth, Please tell me the date: ☐☐ ☐☐ ☐☐☐☐ Day/**Dag** Month/**Maand** Year/**Jaar** Write 99 for day or 999 for month or 9999 for year if unknown		
204	Which of these best describes how you acquired HIV infection? **Watter van hierdie antwoorde is die beste beskrywing van hoe jy MIV gekry het?** *Interviewer: Please read all the response options to the respondent then circle only one that is applicable*	Injecting drug use/**Dwelmgebruik met 'n inspuiting** Sexual partner/**Seksmaat** Mother to child/**Moeder-na-kind-oordrag** Don't know/**Weet nie**	1 2 3 99	
205	Are you currently taking HIV treatment medicine (Anti-retroviral)? **Drink jy tans MIV-medisyne (antiretrovirale middels)?**	No/**Nee** Yes/**Ja** Not sure/**Nie seker nie**	0 1 99	
206	How many days have you missed taking all of your doses of HIV medications during the past four days? **Hoe gereeld het jy die afgelope vier dae van jou dosisse MIV-medisyne oorgeslaan?**	None/**Nooit** One day/**Een dag** Two days/**Twee dae** Three days/**Drie dae** Four days/**Vier dae**	0 1 2 4 5	
207	What was your last CD4 count? **Wat was jou CD4-telling laas?** When was the date of this last CD4 count?	☐☐☐ Number/**Skryf telling neer.** Write 99 if CD4 count is unknown ☐☐ ☐☐☐ ☐☐☐☐ Day/**Dag** Month/**Maand** Year/**Jaar** Write 99 for day or 999 for month or 9999 for year if unknown		

	Op watter datum is hierdie CD4-telling geneem?			
208	Are you currently attending HIV-Youth Support Group/Club? Bywoon u tans n MIV-Jeug Ondersteuningsroup /Klub?	No/**Nee** Yes/**Ja**	0 1	
Pregnancy experiences				
301	How many living children do you have? **Hoeveel kinders het jy wat leef?**	☐☐ Number/**Skryf telling neer.**		
302	a) Since you tested positive for HIV, how many times have you been pregnant? **Hoeveel keer was jy swanger sedert jy positief getoets het vir MIV?** b)How many of these pregnancies (including current pregnancy) occurred: **Hoeveel van hierdie swangerskappe (wat huidige swangerskap insluit) het gebeur:** • When no children, or no more children, were desired? • **... al wou jy nie kinders, of nóg kinders, gehad het nie?** • Earlier than desired? **... vroeër as wat jy wou gehad het?** • When you used a birth control method? **... al het jy 'n geboortebeperkings -metode gebruik?**	☐☐ Number/**Skryf telling neer.** ☐☐ Number/**Skryf telling neer.** ☐☐ ☐☐		Skip 302b if respondent has never been pregnant?

	• When you did not desire to become pregnant but did not use a birth control method?**...** **.... toe jy nie wou swanger raak nie, maar ook nie 'n geboortebeperkings-metode gebruik het nie?**	☐☐		
303	a)Would you like any more children in the future? **Wil jy in die toekoms nóg kinders hê?** *Interviewer: this question is for participants who have had a child/children*	No/**Nee** Yes/**Ja** Not sure/**Nie seker nie**	0 1 2	If No, skip to 401
	b) In future would you like to have children? **Wil jy in die toekoms kinders hê?** *Interviewer: this question is for participants who have had no children*	No/**Nee** Yes/**Ja** Not sure/**Nie seker nie** N/A (for person who are physically unable to have children)/**(vir persoon wat fisies nie kan kinders hê nie)**	0 1 2 3	If No, skip to 401
304	How long would you like to wait before you become pregnant/next pregnancy? **Hoe lank wil jy wag voordat jy swanger raak/weer swanger raak?**	☐☐ Weeks/**Weke** ☐☐ Months/**Maande** ☐☐ Years/**Jaar** ☐☐ Not sure/**Nie seker nie** (please enter 88)		
Contraceptive behaviours: Now I would like to talk about family planning/contraception/preventer- the various ways or methods that a couple can use to delay or avoid a pregnancy. **Voorbehoedingsgedrag: Nou wil ek met jou gesels oor gesinsbeplanning/voorbehoeding – die verskillende metodes of maniere waarop 'n man en vrou swangerskap kan uitstel of voorkom.**				
401	Have you ever heard of the following **(METHOD)/Het**	No/**Nee**	Yes/**Ja**	

	jy al ooit van die volgende (METODES) gehoor? a)Intrauterine device/IUD/Loop/**Intra-uteriene apparaat/"IUD"/veertjie** b)2 months (Nur-Isterate) or 3 months (Depo-provera) injectables/**Inspuitings elke twee maande (Nur-Isterate) of drie maande (Depo-provera)** c)Implants/**Inplantings** d)Pill/birth control tablet/**Die Pil/geboortebeperkingspille** e)Condom (male)/**Manskondoom** f)Female condom/**Vrouekondoom** g) Spermicides (chemical foams/jellies/creams)/**Spermdoders (chemiese skuim/jel/room)** h)Emergency contraception/Morning after pill/Norlevo/**Noodvoorbehoeding/nabehoedpil (vir oggend na die tyd)/Norlevo** i) Female sterilization/ j)Male sterilization/Vasectomy/ **Vroulike sterilisasie** *Interviewee: Please read all the response options to the respondent then circle all that are applicable*	0 0 0 0 0 0 0 0 0 0	1 1 1 1 1 1 1 1 1 1		
402	How did you learn about birth control method/contraception/preventer? **Hoe het jy van hierdie voorbehoeding-/ geboortebeperkingsmetode uitgevind?** *Interviewer: Please read all the response options to the respondent then circle all that are applicable*	Friends/**Vriende** Family/parents/**Familie/ouers** Media/**Media** School /teachers/**Skool/onderwysers**Internet Partner/**Seksmaat** Care provider (Doctors, nurses, etc)/**Sorgverskaffer (dokter, verpleegkundige, ens.)** Others (Please specify)/**Ander (spesifiseer)**……		1 2 3 4 5 6 7 66	

403	Are you or your partner currently doing something or using any method to delay or avoid getting pregnant? **Doen jy of jou seksmaat op die oomblik enigiets, of gebruik julle enige metode, om swangerskap uit te stel of te voorkom?**	No/**Nee** Yes/**Ja**	0 1	If No, skip to 405
404	If Yes response to question 403, what methods are you currently using? **Indien Ja op vraag 403, watter metodes gebruik u tans?** *Interviewer: Please read all the response options to the respondent then circle all that are applicable.* ***Probe for use of condom with another method.*** *Definition of terms:* *Rhythm Method: Sexual (vaginal) intercourse abstinence on days 12 through 19 of the menstrual cycle i.e., days when pregnancy is not likely to occur.* **Ritme Metode: Seksuele (vaginale) omgang onthouding op dae 12 deur 19 van die menstruele siklus d.w.s. dae toe swangerskap is nie geneig om te voorkom**. *Standard Days Method: Sexual (vaginal) intercourse abstinence on days 8 through 19 of the menstrual cycle i.e., (days when pregnancy is not likely to occur) by women with cycles consistently between 26 and 32 days.* **Standard Dae Metode: Seksuele (vaginale) omgang onthouding op dae 8 tot 19 van die menstruele siklus d.w.s. (dae toe swangerskap is nie geneig om te voorkom) deur vroue met siklusse konsekwent tussen 26 en 32 dae.**	Pills/birth control tablet/ **Die Pil/geboortebeperkingspille** Male condom/**Manskondoom** Female condom/**Vrouekondoom** 2 month (Nur-Isterate) or 3 month(Depo-provera) injectables/**Inspuitings elke twee maande (Nur-Isterate) of elke drie maande (Depo-provera)** Implant**/Inplantings** IUD/loop/coil/**"IUD"/veertjie** Spermicide (chemical foam/jelly/cream)/**Spermdoder (chemiese skuim/jel/room)** Emergency contraception/morning after pill/ **Noodvoorbehoeding/nabehoedpil** Female sterilization/tubal ligation/**Vroulike sterilisasie/buisafbinding** Male sterilization/**Manlike sterilisasie** Rhythm method/**Kalender-/ritmemetode** Lactational amenorhhoea (Breastfeeding)/**Laktasie-amenorree (afwesigheid van menstruasie weens borsvoeding)** Standard days method/**Standaarddagmetode** Withdrawal/**Onttrekking** Condom with another method/**Kondoom met 'n ander swangerskap voorkoming metode**(Interviewer: Please write out the another method……. Other (specify)/**Ander (spesifiseer)…...** Don't know/**Weet nie**	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 66 99	

405	If No to question 403, interviewer please ask this question: Since you tested positive for HIV, what family planning method(s) have you/your partner used to avoid getting pregnant? **Het jy/jou seksmaat sedert jy positief getoets het vir MIV ooit enige gesinsbeplanningsmetodes gebruik om te keer dat jy swanger raak?** *Interviewer: Please read all the response options to the respondent then circle all that are applicable*	Pills/birth control tablet/ **Die Pil/geboortebeperkingspille** Male condom/**Manskondoom** Female condom/**Vrouekondoom** 2 month (Nur-Isterate) or 3 month (Depo-provera) injectables/**Inspuitings elke twee maande (Nur-Isterate) of elke drie maande (Depo-provera)** Implant/**Inplantings** IUD/loop/coil/**"IUD"/veertjie** Spermicide (chemical foam/jelly/cream)/ **Spermdoder (chemiese skuim/jel/room)** Emergency contraception/morning after pill/ **Noodvoorbehoeding/nabehoedpil** Female sterilization/tubal ligation/**Vroulike sterilisasie/buisafbinding** Male sterilization/**Manlike sterilisasie** Rhythm method/**Kalender-/ritmemetode** Lactational amenorhhoea (Breastfeeding)/ **Laktasie-amenorree (afwesigheid van menstruasie weens borsvoeding)** Standard days method/**Standaarddagmetode** Withdrawal/**Onttrekking** Condom with another method**/Kondoom met 'n ander swangerskap voorkoming metode** (Interviewer: Please write out the another method……. Other (specify)/**Ander (spesifiseer)…....** Don't know/**Weet nie** None**/Neimand**	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 88 99 100		
406	Since you tested positive for HIV, what family planning method(s) have you or your partner stopped using? **Watter gesinsbeplannings-metode(s) het jy of jou seksmaat ophou gebruik sedert jy positief getoets het vir MIV?** . *Interviewer: Please read all the response options to the respondent then circle all that are applicable*	Pills/birth control tablet/ **Die Pil/geboortebeperkingspille** Male condom/**Manskondoom** Female condom/**Vrouekondoom** 2 month (Nur-Isterate) or 3 month (Depo-provera) injectables/**Inspuitings elke twee maande (Nur-Isterate) of elke drie maande (Depo-provera)** Implant/**Inplantings** IUD/loop/coil/**"IUD"/veertjie** Spermicide (chemical foam/jelly/cream)/ **Spermdoder (chemiese skuim/jel/room)** Emergency contraception/morning after pill/ **Noodvoorbehoeding/nabehoedpil** Female sterilization/tubal ligation/**Vroulike sterilisasie/buisafbinding** Male sterilization/**Manlike sterilisasie** Rhythm method/**Kalender-/ritmemetode**	1 2 3 4 5 6 7 8 9 10 11		Skip 407 if participant say **"None"**

		Lactational amenorhhoea (Breastfeeding)/ **Laktasie-amenorree (afwesigheid van menstruasie weens borsvoeding)** Standard days method/**Standaarddagmetode** Withdrawal/**Onttrekking** Condom with another method/**Kondoom met 'n ander swangerskap voorkoming metode** (Interviewer: Please write out the another method……. Other (specify)/**Ander (spesifiseer)…...** Don't know/**Weet nie** None**/Neimand**	12 13 14 15 88 99 100	Skip 407 if participant say **"None"**
407	Why did you/your partner stop using the family planning method(s) above? I am going to read a number of option please answer No or Yes to each Did you stop because….. **Hoekom het jy/jou seksmaat bogenoemde gesinsbeplanningsmetode(s) ophou gebruik?** **Ek gaan 'n aantal opsie lees, asseblief beantwoord Geen of Ja om elk. Het u ophou omdat ... ..** *Interviewer: Please read all the response options to the respondent then circle all that are applicable*	Advised by provider to use condoms instead/ **Sorgverskaffer het eerder kondome aanbeveel** Problems with method/side-effects/**Probleme met metode/newe-effekte** Costs/**Koste** Fear of HIV transmission to HIV-negative partner/**Bang vir MIV-oordrag aan MIV-negatiewe maat** Fear of getting infected with another HIV virus/**Bang vir infeksie met 'n ander MI-virus** It can worsen HIV disease condition/**Kan MIV-siektetoestand vererger** Positive partner HIV test result/**Maat se positiewe MIV-toetsuitslag** Lower success of HIV medications/**Laer sukses van MIV-medisyne** Provider advised to stop method/**Sorgverskaffer het staking van metode aanbeveel** Moved house/changed clinic/**Het getrek/van kliniek verander** Broke up with partner/**Ek en maat is uitmekaar** Stopped having sex/**Het ophou seks hê** Wanted a baby**/Wou 'n baba hê** Partner wanted a baby/**Maat wou 'n baba hê** Partner told me to stop/**Maat het my gesê om te stop** Others (specify)/**Ander (spesifiseer**):__ Don't know/**Weet nie**	Nee Ja 1 1 2 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 88 99	

Hormonal contraceptive-related safety concerns: As you probably know, some women living with HIV would not take a hormonal method for birth control/pregnancy prevention **(pills/birth control tablets, emergency contraceptive/morning after, 2 months/3 months injectables and implants)** because it might make it more likely for them or their male sexual partners to develop a problem while using it. P lease tell me how much you agree or disagree with the statements I read to you. You can use the face that best describes your opinion.

Soos u waarskynlik weet, sommige vroue wat met MIV leef nie 'n hormonale metode vir geboortebeperking / swangerskap voorkoming neem (pille / geboorte beheer pille, noodvoorbehoedmetodes / morning after, 2 maande / 3 maande inspuitings en inplantings), want dit kan dit meer waarskynlik maak dat hulle of hul manlike seksmaats om 'n probleem te ontwikkel terwyl die gebruik daarvan. Se vir my asseblief stem u saam met my of verskil u met die stellings wat ek vir u lees. Gebruik gerus die gesiggie wat jou mening die beste beskryf.

Interviewer: Please inform participants about the various hormonal methods for pregnancy prevention.

501	Let us assume that you wanted to use a hormonal method of birth control. Which of the following response options would apply to you regarding the statements I read to you. Interviewer: Please start each question (501a-d) with: Do you Strongly Agree, Agree, have Mixed feelings, Disagree or Strongly Disagree that **Kom ons neem aan dat u wou 'n hormonale metode van geboortebeperking gebruik. Watter van die volgende reaksie opsies sal op u van toepassing ten opsigte van die stellings wat ek lees vir u. Onderhoudvoerder: Begin asseblief elke vraag (501a-d) met:** **Stem jy sterk saam, stem jy net saam, het jy gemengde**	Strongly Agree**/Stem sterk saam** 	Agree**/Stem saam** 	Mixed feelings**/ Gemengde gevoelens** 	Disagree**/ Verskil** 	Strongly Disagree**/V erskil sterk** 

	gevoelens, verskil jy, of verskil jy sterk? Gebruik gerus die gesiggie wat die beste aandui hoe jy voel.					
	a) In your case, using hormonal contraceptive could make HIV disease progression to occur quickly (i.e. worsening HIV disease or cause AIDS)? **In u geval, hormonale voorbehoeding kan MIV-siekte vinniger laat vorder (m.a.w. dit maak MIV-siekte erger of veroorsaak vigs).**	☐	☐	☐	☐	☐
	b) In your case, hormonal contraceptive use could make passing the HIV virus to an uninfected male sexual partner to be more able? **In u geval, hormonale voorbehoedmiddel gebruik kan maak oordrag van die MI-virus 'n ongeïnfekteerde manlike seksmaat meer in staat wees?**	☐	☐	☐	☐	☐
	c) In your case, the ability of HIV treatments/medicines to fight HIV virus/AIDS could be reduced with concurrent use of hormonal contraceptive. **In u geval, die vermoë van MIV-behandeling/-medisyne om die MI-virus/vigs te bestry, kan verswak as jy terselfdertyd hormonale voorbehoeding gebruik.**	**STRONGLY AGREE** ☐	**AGREE** ☐	**MIXED FEELINGS** ☐	**DISAGREE** ☐	**STRONGLY DISAGREE** ☐
	d) In your case, birth control failure (i.e., a possibility of getting pregnant) could be more if hormonal contraceptive is used concurrently with HIV medicines because of the possible alterations in its ability to prevent pregnancy by HIV medicines.	☐	☐	☐	☐	☐

	In u geval, daar is 'n sterker moontlikheid dat geboortebeperking kan misluk (m.a.w. dat jy swanger kan raak) as jy hormonale voorbehoeding saam met MIV-medisyne gebruik, want die MIV-medisyne kan die voorbehoeding minder doeltreffend maak.					
Please I would like to know about the relationship you have with your parent(s)/guardian(s) with regards to contraception/family planning/preventer/**Kan jy my asseblief meer vertel oor jou verhouding met jou ouer(s)/voog(de) wat voorbehoeding/gesinsbeplanning betref?**						
502		*Interviewer: Please ask participant to indicate her opinion on the response/diagram and then tick the appropriate box.*				
	Do you strongly disagree, disagree, ……that Your mother talks to you about contraceptive/birth control/family planning use birth control use. **Verskil jy sterk, verskil jy, het jy gemengde gevoelens, stem jy net saam, of Stem jy sterk saam.....Jou ma gesels met jou oor voorbehoeding/ geboortebeperking/ gesinsbeplanning.**	Strongly Disagree/**Verskil Sterk**  ☐	Disagree/**Verskil**  ☐	Neither Disagree/Agree/**Verskil nie/stem ook nie saam nie**  ☐	Agree/Stem saam  ☐	Strongly Agree/Stem sterk saam  ☐
503	**Think about your closest female friend** To what extent do you agree with the following: Your closest female friend encourages you to use contraceptives/birth	Strongly Disagree/ **Verskil sterk**	Disagree/ **Verskil**	Neither Disagree nor Agree/**Verskil nie, stem ook nie saam nie**	Agree/ **Stem saam**	Strongly Agree/ **Stem sterk saam**

	control /family planning method **Dink nou aan jou beste vriendin.** In watter mate stem jy met die volgende saam: Jou beste vriendin moedig jou aan om voorbehoeding/ 'n gesinsbeplanningsmetode/ 'n geboortebeperkingsmetode te gebruik.	 ☐	 ☐	 ☐	 ☐	 ☐
504	How often have you talked with your closest female friend about contraception/birth control/family planning method? **Hoeveel het jy al met jou beste vriendin oor voorbehoeding/ gesinsbeplanning/ geboortebeperking gepraat?** *Interviewer: Please read all the response options to the respondent then circle only one that is applicable*	Never/**Nooit** 0 Once/**Een Keer** 1 Few times/**Paar kere** 2 Many times/**Baie kere** 3				

505	Think about this community where you live/**Dink nou aan hierdie gemeenskap waar jy woon:** How socially acceptable is it these days: If Girls receiving HIV care use contraceptives? **Hoe sosiaal aanvaarbaar is dit deesdae as meisies wat MIV-sorg ontvang voorbehoeding gebruik?**	Is it Completely Unacceptable, Unacceptable, No idea, Acceptable or Completely Acceptable? Please you may use the face that best indicates your opinion. **Is dit heeltemal onaanvaarbaar, net onaanvaarbaar, weet jy nie, is dit aanvaarbaar of heeltemal aanvaarbaar? Gebruik gerus die gesiggie wat jou mening die beste beskryf.**				
		Completely unacceptable/**Heeltemal onaanvaarbaar**  ☐	Unacceptable/ **Onaanvaarbaar**  ☐	No idea/ **Weet nie**  ☐	Acceptable/ **Aanvaarbaar**  ☐	Completely acceptable/ **Heeltemal aanvaarbaar**  ☐

Sexual behaviour: *Now I would like to ask some questions about sexual activity in order to gain a better understanding of some important life issues.*
Seksuele gedrag: ***Nou wil ek jou graag 'n paar vrae oor seksuele aktiwiteit vra om sekere belangrike lewenskwessies beter te verstaan.***

601	Have you ever had/**Het jy al ooit:**	No/**Nee**	Yes/**Ja**	
	Sexual intercourse through vagina (Vagina intercourse/**... seksuele omgang deur die vagina (vaginale omgang) gehad?**	0	1	
	Sexual intercourse through Anus (Anal intercourse)/ **... seksuele omgang deur die anus (anale omgang) gehad?**	0	1	
	Sexual intercourse through mouth (Oral intercourse)/ **... seksuele**	0	1	

	omgang deur die mond (orale omgang) gehad? *Interviewer: Please read all the response options to the respondent then circle all that are applicable*				
602	How old were you when you had sexual intercourse (vaginal intercourse) for the very first time? **Hoe oud was jy toe jy die eerste keer seksuele omgang (vaginale omgang) gehad het?**	☐☐ Years/**Jaar**			
603	Since you tested positive for HIV, which contraceptive method(s) did you use the first time you had sexual intercourse (vaginal intercourse)? **INDIEN jy "ja" geantwoord het op vraag 601 hierbo: Watter voorbehoedingsmetode(s) het jy gebruik toe jy die eerste keer seksuele omgang (vaginale omgang) gehad het nadat jy positief getoets het vir MIV?** *Interviewer: Please read all the response options to the respondent then circle only one that is applicable. Please remind respondent that you are not judging her.*	Pills/birth control tablets/**Die Pil/geboortebeperkingspille** Male condom/**Manskondoom** Female condom/**Vrouekondoom** 2 months (Nur-Isterate) or 3 months (Depo-provera) injectables/**Inspuitings elke twee maande (Nur-Isterate) of elke drie maande (Depo-provera)** Implant/**Inplantings** IUD/loop/coil/**"IUD"/veertjie** Spermicide (chemical foam/jelly/cream)/ **Spermdoder (chemiese skuim/jel/room)** Emergency contraception/morning after pills/**Noodvoorbehoeding/nabehoedpil** Female sterilization/tubal ligation/**Vroulike sterilisasie/buisafbinding** Male sterilization/vasectomy/**Manlike sterilisasie** Rhythm method/**Kalender-/ritmemetode** Lactational amenorhhoea/**Laktasie-amenorree (afwesigheid van menstruasie weens borsvoeding)** Standard days method/**Standaarddagmetode** Withdrawal/**Onttrekking** Condom with any other method above(specify) /**Kondoom saam met enige ander metode hierbo (spesifiseer)** ……. Other(specify)/**Ander (spesifiseer)……**……. Don't know/**Weet nie** None**/Neimand**	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 66 99 100	
604	Think about all the times you have had sexual intercourse, how often would	Every time/**Elke keer** Almost every time/**Byna elke keer** Sometimes/**Soms**	1 2 3		

	you say you or your partner used condom to prevent pregnancy? **Dink aan al die kere wat u seksuele omgang gehad het, hoe dikwels sou u sê het u of u maat kondome gebruik om swangerskap te voorkom?** *Interviewer: Please read all the response options to the respondent then circle only one that is applicable. Please remind respondent that you are not judging her.*	Never/**Nooit** Don't know/**Weet nie** Refused to answer/**Weier om te antwoord**	4 5 6	
605	Think about all the times you have had sexual intercourse, how often would you say you or your partner used any method other than condom (i.e. birth control tablets/pills, injectables (Nur-Isterate or Depo-provera), loop/coil/IUD, implant, Spermicide, or female/male sterilization) to prevent pregnancy? **As u dink aan al die kere wat u al seksuele omgang gehad het, hoe gereeld sou u sê het u of jou maat enige ander metode as 'n kondoom gebruik om swangerskap te voorkom?[(geboorte beheer pille / pille, inspuitings (Nur-Isterate of Depo-Provera), lus / spoel / IUD, inplanting, spermdoder, of vroulike / manlike sterilisasie)?** *Interviewer: Please read all the response options to the respondent then circle only one that is applicable. Please remind respondent that you are not judging her.*	Every time/**Elke keer** Almost every time/**Byna elke keer** Sometimes/**Soms** Never/**Nooit** Don't know/**Weet nie** Refused to answer/**Weier om te antwoord**	1 2 3 4 5 6	
606	How frequently did you or your partner use condom all the times you had sexual intercourse during the **last 3 months**? **Hoe gereeld die afgelope drie maande het jy of jou maat 'n kondoom gebruik toe julle seksuele omgang gehad het?** *Interviewer: Please read all the response options to the respondent then circle only one that is applicable. Please remind respondent that you are not judging her.*	Every time/**Elke keer** Almost every time/**Byna elke keer** Sometimes/**Soms** Never/**Nooit** Don't know/**Weet nie** Refused to answer/**Weier om te antwoord**	1 2 3 4 5 6	

607	How frequently did you or your partner use any method other than condom to prevent pregnancy all the times you had sexual intercourse during the **last 3 months**? **Hoe gereeld die afgelope drie maande het jy of jou maat enige ander metode as 'n kondoom gebruik om swangerskap te voorkom toe julle seksuele omgang gehad het?** *Interviewer: Please read all the response options to the respondent then circle only one that is applicable. Please remind respondent that you are not judging her.*	Every time/**Elke keer** Almost every time/**Byna elke keer** Sometimes/**Soms** Never/**Nooit** Don't know/**Weet nie** Refused to answer**/Weier om te antwoord**	1 2 3 4 5 6	
608	Which method other than condom did you or your partner use to prevent pregnancy all the times you had sexual intercourse during the **last 3 months**? **Watter ander metode as 'n kondoom het jy of jou maat die afgelope drie maande gebruik om swangerskap te voorkom elke keer wat julle seksuele omgang gehad het?** *Interviewer: Please read all the response options to the respondent then circle only one that is applicable. Please remind respondent that you are not judging her.*	Pills/birth control tablets/**Die Pil/geboortebeperkingspille** 2 months (Nur-Isterate) or 3 months (Depo-provera) injectables/**Inspuitings elke twee maande (Nur-Isterate) of drie maande** Implant/**Inplantings** IUD/loop/coil/**"IUD"/veertjie** Spermicide (chemical foam/jelly/cream)/**Spermdoder (chemiese skuim/jel/room)** Emergency contraception/morning after pills/**Noodvoorbehoeding/nabehoedpil** Female sterilization/**Vroulike sterilisasie** Male sterilization/vasectomy/**Manlike sterilisasie** None/**Neimand**	1 2 3 4 5 6 7 8 99	
609a	Since you tested positive for HIV, did you or your partner use condoms (male or female sub-type) the last time you had sexual intercourse (vaginal intercourse)? **Nadat u positief getoets het vir MIV, het u of jou maat ('n) gesinsbeplanningsmetode(s) gebruik toe julle laas seksuele omgang (vaginale omgang) gehad het?**	No/**Nee** Yes/**Ja**	0 1	
609b	Since you tested positive for HIV, did you or your partner use any method other than condom (i.e. birth control	No/**Nee**	0 1	

	tablets/pills, injectables (Nur-Isterate or Depo-provera), loop/coil/IUD, implant, Spermicide, or female/male sterilization) the last time you had sexual intercourse (vaginal intercourse)? **Nadat u positief getoets het vir MIV, het u of jou maat enige metode slegs kondome(dws geboorte beheer pille / pille, inspuitings (Nur-Isterate of Depo-Provera), lus / spoel / IUD, inplanting, spermdoder, of vroulike / manlike sterilisasie) om swangerskap te voorkom? gebruik toe julle laas seksuele omgang (vaginale omgang) gehad het?**	Yes/**Ja**		
609c	Did you have sexual vaginal intercourse within the past 3 months? **Het u 'n seksuele vaginale omgang binne die afgelope 3 maande?**	No/**Nee** Yes/**Ja**	0 1	
610	How many sexual partners have you had in the past 12 months (one year)? **Hoeveel seksmaats het jy die afgelope 12 maande (een jaar) gehad?**	☐☐ Number/**Skryf getal neer.**		

611	Which of this/these best describe/s why you did not use condom and any of these methods other than condoms listed below every time you had intercourse? **Watter van hierdie antwoorde beskryf die beste hoekom jy nie 'n kondoom of enige van die ander metodes hieronder gebruik het elke keer wat jy seks gehad het nie?** ***Methods other than condom*** Pills/birth control tablets/***Ander metodes as 'n kondoom*** 2 months (Nur-Isterate) or 3 months (Depo-provera) injectables/**Die Pil/geboortebeperkingspille** Implant/**Inplantings** IUD/loop/coil/**"IUD"/veertjie** Spermicide (foam/jelly)**/Spermdoder (chemiese skuim/jel/room)** Emergency contraception/morning after pill/Norlevo/**Noodvoorbehoeding/ nabehoedpil** Female sterilization/tubal ligation**/Vroulike sterilisasie** Male sterilization**/Manlike sterilisasie** *Interviewer: Please read all the response options to the respondent then circle all that are applicable. Please remind respondent that you are not judging her.*	Not available/**Nie beskikbaar nie** Too expensive/**Te duur** Partner objected/**Maat het beswaar gemaak** Don't like them/**Hou nie daarvan nie** Used other contraceptive/**Het ander voorbehoeding gebruik** Didn't think it was necessary/**Nie gedink dit was nodig nie** Didn't think of it/**Nie daaraan gedink nie** Partner is HIV positive/**Maat is MIV-positief** Don't enjoy sex with condom/**Geniet nie seks met kondoom nie** Afraid to ask my partner to use it/**Bang om my maat te vra om dit te gebruik** Drunk/used drugs/**Was dronk/het dwelms gebruik** Embarrassed to used female condom/**Was skaam om vrouekondoom te gebruik** Your Religion/**Jou geloof** Other/**Ander** …… Don't know/**Weet nie** No response/**Geen antwoord**	1 2 3 4 5 6 7 8 9 10 11 12 13 66 99 100	
612	How old is your current main/regular sexual partner? **Hoe oud is jou huidige hoofseksmaat/gereelde seksmaat?**	☐☐ Number (years)/**Skryf ouderdom in jaar neer.** If no sexual partner, please tick this box ☐		

613	To what extent do you agree or disagree with this statement: In your relationship, he (main/regular partner) supports you to use birth control method? **In watter mate verskil jy of stem jy saam met hierdie stelling? Hy (jou hoofmaat/ gereelde maat) ondersteun jou in julle verhouding om geboortebeperking te gebruik.**	Strongly Disagree **Verskil sterk**  ☐	Disagree/ **Verskil**  ☐	Neither Agree/Disagree/**Verskil nie, stem ook nie saam nie**  ☐	Agree/**Stem saam**  ☐	Strongly Agree/**Stem sterk Saam**  ☐
614	Have you disclosed your HIV status to your current regular partner? **Het jy jou MIV-status aan jou huidige gereelde seksmaat bekend gemaak?**	No/**Nee** Yes/**Ja**	0 1			
615	Would you be willing to share information on the HIV status of your regular partner with me? **Sou jy bereid wees om jou gereelde seksmaat se MIV-status met my te bespreek?**	No/**Nee** Yes/**Ja**	0 1			
616	What is your regular partner's HIV status? **Wat is jou gereelde seksmaat se MIV-status?**	Positive/**Positief** Negative/**Negatief** Don't know/**Weet nie**	1 2 99			

Contraceptive self-efficacy: *"Please I would like you to rate each item (from 701a--d) according to how true the statement is of you".Please indicate on the diagram below by ticking the appropriate box/response.*

Selfdoeltreffendheid met voorbehoeding: ***"Antwoord asseblief op elke item (van 701a tot d) op grond van hoe waar die stelling vir jou is." Dui asseblief jou antwoord aan deur die toepaslike blokkie te merk.***

701	If you and your boyfriend were getting really heavy into sex (sexual vaginal intercourse) and moving towards intercourse and you were not protected … **As jy en jou ou by mekaar is en julle maak gereed om vaginale omgang te hê, maar jy het nie beskerming nie.....**		**Not at all/Glad nie waar nie** 	Slightly/**Net effens waar** 	**Somewhat/ Nogal waar** 	**Mostly/ Meestal waar** 	**Completely/ Heeltemal waar** 
	701a	You could easily ask him if he had protection (or tell him that you didn't). **... kan jy hom maklik vra of hy beskerming het (of hom sê dat jy nié het nie).**	☐	☐	☐	☐	☐
	701b	You could ask him to use male condom or excuse yourself to put in a female condom, diaphragm/cap, or foam(i.e., chemical jellies or creams) (if you used them for birth control. **... kan jy hom vra om 'n kondoom aan te sit, of jouself verskoon om 'n vrouekondoom, vaginale ring of skuim (d.w.s. chemiese jel of room) te gaan insit (as jy dit vir geboortebeperking gebruik).**	☐	☐	☐	☐	☐
	701c	You could tell him you were on the pill/birth control tablet, 2 months (Nur-Isterate/3months (Depo-provera) injectables, inplants or had an IUD/loop/coil (if you used them for birth control). **... kan jy hom sê jy's op die Pil/geboortebeperking spil, inspuitings elke twee maande (Nur-Isterate)/drie maande (Depo-provera) of inplantings, of jy het 'n "IUD"/veertjie (as jy**	☐	☐	☐	☐	☐

		dit vir geboortebeperking gebruik).					
	701d	You could stop things before intercourse, if you couldn't bring up the subject of protection. **... kan jy dinge vóór omgang stop as jy dit nie regkry om oor beskerming te praat nie.**	**Not at all/Glad nie waar nie** ☐	Slightly/**Net effens waar** ☐	**Somewhat/ Nogal waar** ☐	**Mostly/ Meestal waar** ☐	**Completely/ Heeltemal waar** ☐

Contraceptive service provision: "Please I would like to ask if you have received any of the following birth control services in government clinic(s) since you tested positive for HIV/**Ek wil,asseblief, graag vra of u enige van die volgende geboorte beheer dienste in die regering kliniek(s) ontvang omdat u positief vir MIV getoets (Questions 801-804).**

Interviewers: Please note that the respondents might have received elsewhere but this research is only interested in their views of government clinics.

801				
	a) Have you received advice about contraception/birth control in government clinic(s) since testing positive? **Het u raad oor voorbehoeding / geboortebeperking in die regering kliniek (s) ontvang sedert u positief getoets?**	No/**Nee** Yes/**Ja**	0 1	If No, skip to 802
	b) If yes (to item 801a), was the advice offered in this clinic? **Indien ja na(item 801a), was die raad in hierdie kliniek gegee?**	No/**Nee** Yes/**Ja**	0 1	
	c)When was the most recent time you received this advice? **Wanneer was die mees onlangse tyd wat u hierdie raad advies/ontvang?** *Interviewer: Please read all the response options to the respondent then circle only one that is applicable*	Last clinic visit day**/laaste kliniek besoek**(Date please if yes: Within past month/**In die afgelope maand** Within past 3 months/**In die afgelope drie maande** Within past 12 month/**In die afgelope 12 maande** More than past 12 months/**Langer terug as 12 maande**	1 2 3 4 5	

	d) Who provided this most recent birth control advice received? **Wie het die mees onlangse geboorte beheer raad verskaf?** *Interviewer: Please read all the response options to the respondent then circle only one that is applicable*	Doctor/**Dokter** Nurse/**Verpleegkundige** Adherence counsellor/**Behandelingsvoorligter** Pharmacist/**Apteker***(Interviewer: tick this if not provided by doctor/nurse/counsellor during consultation and patient received service only at the pharmacy during medication requisition/refill)* Other(Specify)/**Ander(spesifiseer)** ……	1 2 3 4 5	
	e) How often did your HIV care provider in this clinic talk to you about birth control? **Hoe dikwels het u MIV-sorgverskaffer in hierdie kliniek met u gepraat oor geboortebeperking?** *Interviewer: Please read all the response options to the respondent then circle only one that is applicable*	Every time/**Elke keer** Almost every time/**Byna elke keer** Sometimes/**Soms** Never/**Nooit** Don't know/**Weet nie**	1 2 3 4 5	
	f)What did your provider talk about when providing these services? **Waaroor praat jou sorgverskaffer wanneer jy hierdie dienste ontvang?** *Interviewer: Please read all the response options to the respondent then circle all that are applicable*	Abstinence/**Onthouding (geen seks nie)** Need to use birth control/**Belang van geboortebeperking** Motivation to prevent pregnancy/**Motivering om swangerskap te voorkom** Choosing methods/**Hoe om metodes te kies** Proper use of method(s)/**Behoorlike gebruik van metode(s)** Switching method/**Oorskakeling tussen metodes** What to do about missed pills/**Wat om te doen as jy pille oorslaan** Clinic policies about contraception/**Kliniekbeleid oor voorbehoeding** Others (specify)/**Ander (spesifiseer)**….. …..	1 2 3 4 5 6 7 8 66	

802	a) Have you received condom provision in government clinic(s) since testing positive? **Het u kondoom voorsiening in die regering kliniek (s) ontvang sedert u positief getoets?**	No/**Nee** Yes/**Ja**	0 1	If No, skip to 803
	b) If yes (to item 802a), was the condom provision offered in this clinic? **Indien ja na(item 802a), was die kondoom voorsiening in hierdie kliniek aangebied?**	No/**Nee** Yes/**Ja**	0 1	
	c) When was the most recent time you received this service-condom provision? **Wanneer was die mees onlangse tyd wat u hierdie gekry kondoom voorsiening?** *Interviewer: Please read all the response options to the respondent then circle only one that is applicable*	Last clinic visit day/**laaste kliniek besoek**(Date please if yes: Within past month**/In die afgelope maand** Within past 3 months**/In die afgelope drie maande** Within past 12 month**/In die afgelope 12 maande** More than past 12 months**/Langer terug as 12 maande**	1 2 3 4 5	
	d) Which provider gave you this most recent service- condom provision? **Watter verskaffer het u hierdie mees onlangse diens gegee- kondoom voorsiening?** *Interviewer: Please read all the response options to the respondent then circle only one that is applicable*	Doctor/**Dokter** Nurse/**Verpleegkundige** Adherence counsellor/**Behandelingsvoorligter** Pharmacist/**Apteker***(Interviewer: tick this if not provided by doctor/nurse/counsellor during*	1 2 3 4	

		consultation and patient received service only at the pharmacy during medication requisition/refill) Other(Specify)/**Ander(spesifiseer)** ……	5	
803	a) Have you received birth control/family planning method provision other than condom in government clinic(s) since testing positive? (i.e. birth control tablets/pills, injectables (Nur-Isterate or Depo-provera), loop/coil/IUD, implant, etc **Het u geboortebeperking / gesinsbeplanning metode voorsiening behalwe kondoom in die regering kliniek (s) gekry sedert u positief getoets het? (Die Pil/geboortebeperkingspille, Inspuitings elke twee maande (Nur-Isterate) of drie maande, Inplantings, "IUD"/veertjie**	No/**Nee** Yes/**Ja**	0 1	If No, skip to 804
	b) If yes (to item 803b), was birth control/family planning method provision (other than condom) offered in this clinic? **Indien ja na (item 803b), is geboortebeperking / gesinsbeplanning metode voorsiening (behalwe kondoom) in hierdie kliniek aangebied?**	No/**Nee** Yes/**Ja**	0 1	
	c) When was the most recent time you receive this service- birth control/family planning method provision other than condom?	Last clinic visit day/**laaste kliniek besoek**(Date please if yes:	1	

	Wanneer was die mees onlangse tyd wat u hierdie gekry geboortebeperking / gesinsbeplanning metode voorsiening (behalwe kondoom)? *Interviewer: Please read all the response options to the respondent then circle only one that is applicable*	Within past month/**In die afgelope maand** Within past 3 months/**In die afgelope drie maande** Within past 12 month/**In die afgelope 12 maande** More than past 12 months/**Langer terug as 12 maande**	2 3 4 5	
	d) Which provider gave you this most recent service- birth control/family planning method provision other than condom? **Watter verskaffer het u hierdie mees onlangse diens gegee-geboortebeperking / gesinsbeplanning metode voorsiening behalwe kondoom?** *Interviewer: Please read all the response options to the respondent then circle only one that is applicable*	Doctor/**Dokter** Nurse/**Verpleegkundige** Adherence counsellor/**Behandelingsvoorligter** Pharmacist/**Apteker***(Interviewer: tick this if not provided by doctor/nurse/counsellor during consultation and patient received service only at the pharmacy during medication requisition/refill)* Other (Specify)/**Ander(spesifiseer)** ……	1 2 3 4 5	
804	a) Have you received dual method provision (condom plus any other method such as pills/birth control tablets, 2 months (Nur-Isterate)/3 months (depo-provera) injectables, IUD/loop/coil, or inplants) in government clinic(s) since testing positive? **Het u 'n dubbele metode voorsiening (kondoom plus enige ander metode soos pille / geboorte beheer pille, 2 maande (Nur-Isterate) / 3 maande (Depo-Provera) inspuitings, IUD / lus / spoel, of inplants) in die regering kliniek (s) ontvang sedert u positief getoets is vir MIV?**	No/**Nee** Yes/**Ja**	0 1	If No, skip to 805
	b) If yes (to item 804a), was dual method provision offered in this clinic? **Indien ja na (item 804a), was 'n dubbele metode voorsiening in hierdie kliniek aangebied?**	No/**Nee** Yes/**Ja**		

	(Interviewer: please remind respondent what is dual method) b) When was the most recent time you received this service- dual method provision? **Wanneer was die mees onlangse tyd wat u hierdie gekry dubbele metode voorsiening** *Interviewer: please remind respondent what is dual method. Please read all the response options to the respondent then circle only one that is applicable*	Last clinic visit day/**laaste kliniek besoek**(Date please if yes: Within past month**/In die afgelope maand** Within past 3 months**/In die afgelope drie maande** Within past 12 month**/In die afgelope 12 maande** More than past 12 months**/Langer terug as 12 maande**	1 2 3 4 5	
	d) Which provider gave you this most recent service- dual method provision? **Watter verskaffer het u hierdie mees onlangse diens gegee-'n dubbele metode voorsiening?** *Interviewer: please remind respondent what is dual method. Please read all the response options to the respondent then circle only one that is applicable*	Doctor/**Dokter** Nurse/**Verpleegkundige** Adherence counsellor/**Behandelingsvoorligter** Pharmacist/**Apteker***(Interviewer: tick this if not provided by doctor/nurse/counsellor during consultation and patient received service only at the pharmacy during medication requisition/refill)* Other(Specify)/**Ander(spesifiseer)** ……	1 2 3 4 5	

Contraceptive preferences, quality & satisfaction: "Please I would like to ask you about your impressions/feelings of the contraceptive/birth control services in this clinic. Once again, please note that none of the care providers in this clinic will be aware of the information you share in this interview and anything you say will not affect the care you receive".
Please tell me how much you agree or disagree with the following statements about your **most recent contraceptive**/birth control consultation visit or consultation for contraception services during attending HIV-related services in this clinic. Do you Strongly disagree, disagree, have Mixed Feelings, Agree or Strongly Agree? You can use the face the best indicates your opinion.

Voorbehoedingsvoorkeure, -gehalte en -tevredenheid: "Nou wil ek graag met jou gesels oor jou indrukke van/gevoelens oor die voorbehoeding-/geboortebeperkingsdienste by hierdie kliniek. Onthou, nie een van die sorgverskaffers by hierdie kliniek sal weet wat jy my in hierdie onderhoud vertel nie."
Sê my asseblief in watter mate jy saamstem of verskil met die volgende stellings oor jou vorige voorbehoeding-/geboortebeperkingskonsultasie, of konsultasie vir voorbehoedingsdienste terwyl jy MIV-verwante dienste by hierdie kliniek ontvang het. Verskil jy sterk, verskil jy, het jy gemengde gevoelens, stem jy net saam, of Stem jy sterk saam? Gebruik gerus die gesiggie wat die beste aandui hoe jy voel.

Statements *Interviewer: Please read out these sentences before each question (805-813):* Do you Strongly Disagree, Disagree, have Mixed Feelings, Agree or Strongly Agree with the statement that (please state each statement from items 805 through 813) during your **most recent contraceptive**/birth control consultation visit or consultation for contraception services in this clinic? **Verskil jy sterk, verskil jy, het jy gemengde gevoelens, stem jy net saam, of Stem jy sterk saam nie saam met die stelling wat ek aan u lees oor u mees onlangse kontraseptiewe / geboorte beheer konsultasie besoek of konsultasie vir voorbehoeding dienste in hierdie kliniek?** You can use the face the best indicates your opinion**.Gebruik gerus die gesiggie wat die beste aandui hoe jy voel.**		Strongly Disagree/**Verskil sterk** 	Disagree/**Verskil** 	Mixed Feelings/ **Gemengde gevoelens** 	Agree/**Stem saam** 	Strongly Agree/**Stem sterk saam** 
805	The staff were friendly **Die personeel was vriendelik.**	☐	☐	☐	☐	☐
806	The nurses and doctors listened to you **Die verpleegkundiges en dokters luister na jou.**	☐	☐	☐	☐	☐
807	Young girls living with HIV requesting contraception are treated with respect **Jong meisies met MIV wat vir voorbehoeding vra, word met respek behandel.**	☐	☐	☐	☐	☐

808	Information provided about birth control methods was understandable and sufficient (for examples, the degree/extent to which different methods is successful in achieving birth control, how to use a particular method) **Die inligting wat hulle jou oor geboortebeperkingsmetodes gee, is verstaanbaar en voldoende (soos oor hoe suksesvol die verskillende metodes is om te keer dat jy swanger raak, en hoe om 'n sekere metode te gebruik).**	☐	☐	☐	☐	☐
809	The staff who work in this clinic do not make efforts to find out your needs regarding birth control/contraception (including birth control advice and provision) without you asking. **Die personeel wat in hierdie kliniek werk maak geen pogings nie om uit te vind van u behoeftes met betrekking tot geboortebeperking / kontrasepsie (insluitend geboorte beheer raad en voorsiening) sonder dat u moet vra .**	**STRONGLY DISAGREE** ☐	**DISAGREE** ☐	**MIXED FEELING** ☐	**AGREE** ☐	**STRONGLY AGREE** ☐
810	Your consultation was private (i.e. service providers and staff respect your privacy) **Die konsultasie was privaat (d.w.s. diensverskaffers en personeel respekteer jou privaatheid).**	☐	☐	☐	☐	☐
811	Had to wait for a long time to be seen (i.e. time spent in the waiting room before a nurse or doctor is seen for consultation regarding contraception) after you arrived at the clinic **Moes lank wag vir die konsultasie nadat jy by die kliniek aangekom het (d.w.s. in die wagkamer voordat jy met 'n verpleegkundige of dokter oor voorbehoeding kon praat).**	☐	☐	☐	☐	☐
812	The clinic has the birth control method you needed **Die kliniek het die geboortebeperkingsmetode gehad wat jy wou hê.**	☐	☐	☐	☐	☐

813	You would recommend this clinic to a friend **Jy sal hierdie kliniek by 'n vriendin aanbeveel.**	☐	☐	☐	☐	☐
814	Services were organized **Dienste was georganiseer**	☐	☐	☐	☐	☐
815	The waiting room(s) was/were too crowded **Die wagkamer (s) was oorvol**	☐	☐	☐	☐	☐
816	One felt comfortable being around other patients who were there? **Voel n mens gemaklik om rondom ander pasiënte wat daar was?**	**STRONGLY DISAGREE** ☐	**DISAGREE** ☐	**MIXED FEELING** ☐	**AGREE** ☐	**STRONGLY AGREE** ☐
817	The family planning/birth control care/services you received was directed to your needs and preferences (e.g., able to see same provider in subsequent clinic visits, provider's gender, provider's age, methods of contraception) **die gesinsbeplanning / geboorte beheer sorg wat u in hierdie kliniek ontvang word na u behoeftes en voorkeure (bv, in staat om dieselfde verskaffer in die daaropvolgende kliniekbesoeke sien, geslag van verskaffer, ouderdom van verskaffer, metodes van geboortebeperking)**	☐	☐	☐	☐	☐
818	Before providing you a with birth control method, a staff in the clinic or doctor's office talked to you about a variety of possible methods of birth control	No/**Nee** 0 Yes/**Ja** 1				

	Het 'n personeellid by die kliniek of in die dokter se spreekkamer met jou oor al die verskillende moontlike geboortebeperkingsmetodes gesels voordat jy 'n geboortebeperkingsmetode ontvang het?			
819	Have you Ever been pressured by a staff in the clinic or doctor's office to use or continue to use a particular method of birth control when you would have rather used a particular method or no method at all. **Het 'n personeellid by die kliniek of in die dokter se spreekkamer jou ooit onder druk geplaas om 'n sekere geboortebeperkingsmetode te gebruik of aan te hou gebruik, al wou jy eintlik 'n ander metode gebruik of selfs niks gebruik nie?**	No/**Nee** 0 Yes/**Ja** 1 ***If Yes, Please ask which method she was pressured to use:……..*** …… …… …… …… …… …… …… …… ..		
Please can you respond to the following questions about your a) experience during your last clinic visit (this same clinic) for contraception/family planning/birth control, and b) preferences for contraceptive services? **Kan u asseblief reageer op die volgende vrae oor u a) ervaring met jou vorige kliniekbesoek vir voorbehoeding/gesinsbeplanning/geboortebeperking (by hierdie selfde kliniek), en b) voorkeure in verband met voorbehoedingsdienste?**				
901	Which birth control method did you plan to get during your last clinic visit for birth control that you did not get? **Watter geboorte beheer metode was u op plan te kry tydens die vorige kliniek besoek vir geboortebeperking dat u nie gekry nie?**	Please specify/**Spesifiseer asseblief** …….…….		
902	Able to see same provider for services related to birth control/family planning at subsequent clinic visits? **Kon jy met daaropvolgende kliniekbesoeke met dieselfde verskaffer oor geboortebeperking/gesinsbeplanning praat?**	No/**Nee** Yes/**Ja** Not sure/**Nie seker nie**	1 2 88	
903	Please indicate from these photos the contraceptive/birth control methods that have been discussed or explained to you in this clinic?	Condoms with another method **Kondoom saam met enige ander metode hierbo** Yes ☐ No ☐	Yes No	

	Dui asseblief op hierdie foto's aan watter voorbehoeding-/geboortebeperkingsmetodes by hierdie kliniek met jou bespreek of aan jou verduidelik is? *Interviewer: Please read all the response options to the respondent then tick the appropriate boxes that apply.*	Pills/birth control tablets Yes ☐ No ☐ **Die Pil/geboortebeperkingspille** 2 months (Nur-Isterate) or 3 months (depo-provera) injectable: **Inspuitings elke twee maande (Nur-Isterate) of drie maande (Depo-provera)** Yes ☐ No ☐ Male condom/**Manskondoom** Yes ☐ No ☐ Female condom/**Vrouekondoom** Yes ☐ No ☐ Implants/**Inplantings** Yes ☐ No ☐ Chemical foam/jell/cream/**Chemiese skuim/jel/room** Yes ☐ No ☐ IUD/loop/coil/**"IUD"/veertjie** Yes ☐ No ☐ Others (specify)/**Ander (spesifiseer)** ……	1 0 1 0 1 0 1 0 1 0 1 0 1 0	
904	Is it important to you to see the same service provider (doctors, nurses) at every visit for contraception/birth control, or do you not care? **Is dit vir jou belangrik om met elke besoek vir voorbehoeding/geboortebeperking met dieselfde sorgverskaffer (dokter, verpleegkundige) te praat, of maak dit nie saak nie?** *Interviewer: Please read all the response options to the respondent then circle only one that is applicable*	Important/**Belangrik** Unimportant/**Onbelangrik** Don't care either way/**Gee nie om nie**	1 2 3	
905	Would you prefer to have contraception/birth control service provided by : **Sou jy verkies dat die voorbehoeding-/geboortebeperkingsdiens voorsien word deur:**	A female/**... 'n vrou?** A male/**... 'n man?** Does not matter either way/**Maak nie saak nie?**	1 2 3	

	Interviewer: Please read all the response options to the respondent then circle only one that is applicable			
906	Would you prefer to have contraception/birth control service provided by someone who is: **Sou jy verkies dat die voorbehoeding-/ geboortebeperkingsdiens voorsien word deur iemand wat:** *Interviewer: Please read all the response options to the respondent then circle only one that is applicable*	18-19 years old/**... 18-19 jaar oud is?** 20-24 years old/**... 20-24 jaar oud is?** More than 25 years old/**... ouer as 25 is?** Don't know/ **Weet nie?** Other (specify)/**Ander (spesifiseer)** …..…..	1 2 3 4 66	
907	If you had your choice, would you prefer to get contraception/birth control services at: **As jy kon kies, sou jy verkies om voorbehoeding-/ geboortebeperkingsdienste te ontvang by:** *Interviewer: Please read all the response options to the respondent then circle only one that is applicable*	A place that provides care for only young persons (15-24 years**)/... 'n plek wat sorg aan slegs jongmense (15-24 jaar) verskaf?** A place that provides care for all ages but has a dedicated clinic day for young persons/**... 'n plek wat sorg aan alle ouderdomme verskaf, maar wat 'n toegewyde kliniekdag vir jongmense het?** HIV youth support group/**... 'n MIV-jeugsteungroep?** General clinic (all ages clinic including adults)/**... 'n algemene kliniek (kliniek vir alle ouderdomme, onder meer volwassenes)?** ? School-based clinic/**... 'n skoolgebaseerde kliniek?** No preference**/Geen voorkeur nie?** Don't know/**Weet nie?**	1 2 3 4 5 6 99	
908	What is/are your preferred methods of contraception? **Watter voorbehoedingsmetodes verkies jy?** *Interviewer: Please read all the response options to the respondent then circle all that are applicable*	Pills/birth control tablets/**Die Pil/geboortebeperkingspille** 2 months (Nur-Isterate) or 3 months (Depo-provera) injectable/ **Inspuitings elke twee maande (Nur-Isterate) of drie maande (Depo-provera)** Emergency contraception/**Morning after pills/ Noodvoorbehoeding/nabehoedpil** Male condom/**Manskondoom** Female condom/**Vrouekondoom** Implants/**Inplantings** Chemical foam/jell/cream/**Chemiese skuim/jel/room** IUD/loop/coil/**"IUD"/veertjie** Condom with another method**/Kondoom met 'n ander swangerskap voorkoming metode**(Interviewer:Please write out the another method……. Others (specify)/**Ander (spesifiseer)** No preference/**Geen voorkeur nie**	1 2 3 4 5 6 7 8 9 66 44	

		Don't know/**Weet nie**	99	
909	Why do you prefer these methods? **Hoekom verkies jy hierdie metodes?**	Specify please/**Spesifiseer asseblief** **Interviwer: Please write out each method and the reason(s) for each method** 1…… 2……. 3…… 4…….. 5……		

Overall satisfaction: Please think back about all your visits to this clinic for contraception. "Please I would like to ask you about how satisfied you are with the contraceptive/birth control services in this clinic. Once again, please note that none of the care providers in this clinic will be aware of the information you share in this interview".

Algehele tevredenheid: Dink asseblief terug aan ál jou besoeke vir voorbehoeding by hierdie kliniek. "Nou wil ek jou graag vra oor hoe tevrede jy is met die voorbehoeding-/geboortebeperkingsdienste by hierdie kliniek. Onthou asseblief, nie een van die sorgverskaffers by hierdie kliniek sal weet wat jy my in hierdie onderhoud vertel nie."

910	In general, how would you rate your satisfaction with the quality (**i.e standard of care/degree of excellence)** of contraception/birth control services you received in this clinic? **Hoe tevrede is u oor die algemeen met die gehalte van die voorbehoeding-/geboortebeperkingsdienste wat u by hierdie kliniek ontvang het?**	Please indicate your opinion by ticking the appropriate box. You can use the face that best indicates your opinion. **Dui asseblief jou mening aan deur die toepaslike blokkie te merk. Gebruik gerus die gesiggie wat jou mening die beste beskryf.**				
		Very dissatisfied /**Baie ontevrede**	Dissatisfied/ **ontevrede**	Neither Dissatisfied nor Satisfied/**Nie ontevrede óf tevrede nie**	Satisfied/**Tevrede**	Very Satisfied/ **Baie Tevrede**
						
		☐	☐	☐	☐	☐

Clinic stigma"Please I would like to ask you about your impressions/feelings of the contraceptive/birth control services in this clinic. Once again, please note that none of the care providers in this clinic will be aware of the information you share in this interview".

Considering your most recent contraceptive/birth control consultation visit or consultation for contraception services during attending HIV-related services in this clinic, please tell me how much you agree or disagree with the following statements I read to you. You can use the face the best describes your opinion.

Kliniekstigma: "Nou wil ek jou graag vra oor jou indrukke van/gevoelens oor die voorbehoeding-/geboortebeperkingsdienste by hierdie kliniek. Onthou asseblief, nie een van die sorgverskaffers by hierdie kliniek sal weet wat jy my in hierdie onderhoud vertel nie."

As jy dink aan jou vorige voorbehoeding-/geboortebeperkingskonsultasie, of konsultasie vir voorbehoedingsdienste terwyl jy MIV-verwante dienste by hierdie kliniek ontvang het, in watter mate stem jy saam of verskil jy met die stellings wat ek vir jou sal lees. Gebruik gerus die gesiggie wat jou mening die beste beskryf.

		Strongly Agree/Stem sterk saam 	**Agree/Stem saam** 	**Mixed feelings/Gemengde gevoelens** 	**Disagree/Verskil** 	**Strongly Disagree/Verskil sterk** 
1001	Others can find out when you come to this clinic for contraception/birth control **Ander kan uitvind as jy vir voorbehoeding/geboortebeperking na hierdie kliniek toe kom.**	☐	☐	☐	☐	☐
1002	Others can find out your HIV status when you come to this clinic for contraception/birth control/family planning. **Ander kan jou MIV-status uitvind as jy vir voorbehoeding/geboortebeperking/gesinsbeplanning na hierdie kliniek toe kom.**	☐	☐	☐	☐	☐
1003	Staff members at this clinic might tell other people that you come for contraception/birth control/family planning method without your permission. **Personeellede by hierdie kliniek kan ander mense sonder jou toestemming vertel dat jy vir voorbehoeding/geboortebeperking/gesinsbeplanning kom**.	**STRONGLY AGREE** ☐	**AGREE** ☐	**MIXED FEELINGS** ☐	**DISAGREE** ☐	**STRONGLY DISAGREE** ☐

Thank you for your participation.

Interviewer signature/date……

Appendix 6: Excerpts from cognitive interviews

Respondent 1 (19-year-old HIV-positive female, education – Matric, Language of interview- English)
Participant was encouraged to think aloud – to say out loud – by talking through the process by which she arrived at her answers to the questions on the questionnaire.
Follow-up probes:

1. a. What do you think I meant by "Which of these best describes how you acquired HIV infection?"
   Respondent: Asking me how did I get HIV.
   b. How did you arrive at your answers?
   Respondent: I already knew this answer.
   c. Can you tell me more about that?
   Respondent: I got it from my former male partner.

2. Can you repeat this question in your own words: Q501c: In your case, the ability of HIV treatments/medicines to fight HIV virus/AIDS could be reduced with concurrent use of hormonal contraceptive *(information on hormonal methods are provided on the questionnaire).*
   Respondent: I think it means the medicine I am taking for HIV – If I could use hormonal contraception and HIV medicine at the same time –whether HIV medicine could be weakened.

3. Can you tell me in your own word what you consider the important qualities (i.e the degree of excellence of contraceptive services) of service that young girls in HIV care should have? (This question was asked prior to the administration of the questionnaire)
   Respondent: They should listen to us, not give their own opinions and understand us when we come to the clinic for family planning.

4. How confident are you of your answers to the questions on the questionnaire?
   Respondent: Highly confident and honest.

5. a. Do you really understand the following response options: Strongly Disagree, Disagree……..Agree, Strongly Agree

   Respondent: I understand them. Strong means am very sure of my answers.
   b. Between the smiley faces and your feelings- which would you like to choose in deciding your response/answer?
   Respondent: I used my feelings during the interview.
   c. Why?
   Respondent: Because that is how I feel. I was expressing how I felt.
   d. Why did you choose strongly agree for question 805? The staff were friendly?
   Respondent: Because they treated me very nice as a patient here.
   e. How did you translate your feelings to match the Disagree/Agree Scale?

Respondent: I thought about Yes or No. It is like saying strongly Yes for Strongly Agree.

Respondent 2 (16-year-old HIV-positive female, education – Grade 10, Language of interview: isiXhosa)
Participant was encouraged to think aloud – to say out loud – by talking through the process by which she arrived at her answers to the questions on the questionnaire.
Follow-up probes:

1. a. How did you arrive at your answer to this question? "Which of these best describes how you acquired HIV infection?"
   Respondent: Because I got it from my mother (Respondent chose mother-child transmission)

2. What do you think I meant by: Q613: To what extent do you agree or disagree with this statement: In your relationship, he (main/regular partner) supports you to use birth control method?
   Respondent: Trying to find out if my partner wants me to use family planning.

3. Can you tell me in your own word what I meant by this question: The staff who work in this clinic do not make efforts to find out your needs regarding birth control/contraception (including birth control advice and provision) without you asking.
   Respondent: You are trying to say- I don't have to ask for services before they provide it.

4. How confident are you are you of your answers to the questions on the questionnaire?
   Respondent: Very confident about my answers.

5. a. Do you really understand the following response options: Strongly Disagree, Disagree……..Agree, Strongly Agree
   Respondent: Yes
   b. Between the smiley faces and your feelings- which would you like to choose in deciding your response/answer?
   Respondent: I used my feelings because those questions touched feelings – they are more personal.
   c. Why did you choose strongly agree for question 810? Your consultation was private (i.e. service providers and staff respect your privacy)
   Respondent: Strong means I am very sure of my response. I chose strongly agree because other patients don't people don't know my HIV status here. In this clinic- they respect our privacy very well because others will be judgemental if they know.

Appendix 7 (isixhosa): Information sheet: HIV, adolescent and contraception study
uxwebhu lolwazi: hiv, abaselula kunye nophando ngocwangciso

PARTICIPANT ID NUMBER: ……DATE……
ISAZISI SOMTHATHI –NXAXHEBA:……..UMHLA…….

Invitation to participate

- ❖ Hello. I am [INTERVIEWER NAME]. I am a researcher working with a student who is doing this survey for his PhD degree at the University of Cape Town. We are conducting research with young girls young girls 14-19 years in HIV care in selected clinics in Khayelitsha, Klipfontein and Mitchells Plain. I would like to invite you to participate in the research. The aim of this research is to improve our understanding of the needs related to birth control/preventer in adolescent girls in HIV care. We would like to achieve this by inviting young girls 14-19 years attending HIV care in this clinic to take part in this research. To assist you decide if you would like to take part, I would like to share the information about the research with you. If you have any questions while I am explaining information about the research to you, please feel free to ask me.

Isimemo sokuthatha inxaxheba

- Molo. Ndingu[IGAMA LOMBHEXESHI WO DLIWANO NDLEBE]. Ndingumphandi osebenza nomfundi ofundela isidanga se PhD kwi Yunivesithi yase Kapa. Siqhuba uphando namantombazana aselula 14-19 yeminyaka abakukhathalelo lukagawulayo kwi kliniki ezikhethiweyo e Khayelitsha,Klipfontein nase Mitchell's Plain. Ndingathanda ukumema ukuba uthathe inxaxheba koluphando. Injongo yoluphando kukuphucula ukuqonda kwethu iimfuneko ezinxulumelene nocwangciso kumantombazana aselula akhathalelwe nge HIV. Oku singathanda ukukwenza ngokumema amantombazana aselula 14-19 yeminyaka ahambela ukhathalelo lwe HIV kule kliniki ukuba bathathe inxaxheba koluphando. Ukuncedisana nawe ekwenzeni isigqibo sokubayingxenye, ndingathanda ukwabelana nawe ngolwazi loluphando. Ukuba unayo imibuzo xa ndicacisayo ulwazi ngoluphando, zive ukhululekile ukubuza imibuzo.

- ❖ Why are we doing this research study?
  We are doing this research to better understand issues related to birth control/contraception use among young girls in HIV care. We are also looking at how different clinics provide family planning/birth control services for young girls in HIV care. This will help us to come up with a way to tailor family planning (birth control) services to what young girls in HIV care need and prefer.

- Kutheni sisenza oluphando nje?
  Senza oluphando kuba sifuna ukuqonda ngcono malunga nemiba enxulumelene nocwangciso/ukusetyenziswa kocwangciso ngamantombazana aselula abakukhathalelo lukagawulayo .Kwaye sifuna ukujonga ukuba ikliniki ezahlukeneyo zinikezela njani iinkonzo zocwangciso kumantombazana aselula abakukhathalelo lukagawulayo. Oku kuyasinceda ekufumaneni indlela yokulungisa iinkonzo zocwangciso ezifunwa nezikhetwa ngamantombazana aselula nabakukhathalelo lukagawulayo

- ❖ Why have you been invited to take part?
  You are being invited to participate in this research because we feel that your experiences as a young girl aged 14 -19 years will help us to understand how to improve family planning/birth control services for young girls in HIV care. We are inviting young girls aged 14 to 19 years to participate in this research study.

- Kutheni umenywa ukuthabatha inxaxheba?
  Uyamenywa ukuba uthathe inxaxheba koluphando sibona ukuba amava akho njengentombazana eselula ekwiminyaka ye 14-19 ubudala angasinceda ekuqondeni indlela yokuphucula iikonzo

zocwangciso kumantombazana aselula akukhathalelo lukagawulayo. Simema amantombazana aminyaka 14-19 yeminyaka ukuba athathe inxaxheba koluphando.

- ❖ What will happen if you decide to participate?
  For young girls aged 14 to 17 years, we will seek your parent's/legal guardian's approval to allow you to participate in this research. This means the lead researcher/PhD candidate and/or the interviewer/research assistant will ask you to give the consent form to him/her and return the signed consent form on your next scheduled clinic/interview visit. In case we contact your parent/legal guardian physically, we will deliver the consent form ourselves and collect the signed version (Please note we will not tell your parent or guardian your HIV status).
- ❖ We will request you to sign an assent form (for persons aged 14-17 years) or consent form (for persons aged 18 years and above).
  We will ask you to answer questions about yourself including your medical and treatment history, and experiences with birth control/family planning/preventer.
  We will ask you to spend 40-45 mins with an interviewer answering questions.
  The interview will take place in a comfortable location in the clinic where your privacy can be assured.
  You will be provided with a light refreshment, and you will be reimbursed only if you have incurred travel costs.
- Kuyakuqhubeka ntoni xa ugqibe ukuthatha inxaxheba?
  Kumantombazana aminyaka 14-17 iminyaka, sizakufuna imvume yomzali/umgcini ehambisana nokuthatha kwakho inxaxheba. Oko kukuthi umkhokeli wophando/umfundi we PhD/umbhexeshi wo dliwano ndlebe/umphandi oncedisayo bazakudibana nomzali/mgcini ngomnxeba okanye baye kuye ngqo) ukumazisa malunga nophando,kunye noxwebhu lwemvume emva koko kuzakufuneka imvume ebhaliweyo yomzali.Ukuba umzali utsalelwe umnxeba kwaye ekuvumela ukuthatha kwakhi inxaxheba, sizakucela ukuba umnike uxwebhu lwemvume ubuyise uxwebhu olutyikityiweyo xa uphinde wanikwa usuku lokubuyela e kliniki.
  Ukuba kuthe sadibana nomzali/mgcini ngqo, sizakulisa ngokwethu ixwebhu lwemvume siqokelele uxwebhu elityikityiweyo.
  Sizakucela ukuba utyikitye uxwebhu lokwamkela oku(kubantu aba kwi 14-17 yeminyaka) okanye elokuvuma(kubantu aba kwi 18 nangaphezulu)
  Sizakubuza uphendule imibuzo malunga nawe kuquka indlela onyangwa ngayo, kwaye namava ngocwangciso/isikhuselo
  Sizakucela ukuba ucithe 40-45 yemizuzu nombhexeshi wo dliwano-ndlebe uphendula imibuzo.
  Udliwano-ndlebe luzakuqhutywa kwindawo efihlakeleyo noziva ukhululekile kuyo.
  Uzakunikwa amaqebengwana alula, uzakubhatalwa xa uthe wasebenzisa imali yokukhwela.
- ❖ Do you have to take part?
  The decision to take part is yours and is voluntary, and you can ask for time to think about it. You don't have to take part if you don't wish to. If you decide to take part, that's nice. Whether you participate or not you will still get the same care as usual at the clinic.
- Unyanzelekile ukuthatha inxaxheba?
  Isigqibo sokuthatha inxaxheba sesakho kwaye uyazikhethela, ungacela ixesha elongeziweyo ukucingisisa isigqibo sakho. Awunyanzelekanga ukuthatha inxaxheba ukuba awufuni. Ukuba ugqibe

ekuthatheni inxaxheba, intle lo nto. . Nokuba uthe warhoxa okanye waqhubekeka, uzakufumana impatho obuqhele ukuyifumana kwi kliniki yakho.

❖ Will you be able to withdraw from the research study?
Yes. You can stop taking part at any time during the interview without giving any reason. If you decide to stop participating at any time during the interview, please let the interviewer know before you withdraw. Whether you withdraw or continue your participation in the interview you will still get the same care as usual at the clinic.

- Ungakwazi ukurhoxa koluphando?
Ewe. Ungarhoxa nangaliphi ixesha ukudliwano-ndlebe ngaphandle kokunika isizathu. Ukuba ufuna ukurhoxa, nceda xelela umbhexeshi kwangethuba ukuba ufuna ukuyeka. Nokuba uthe warhoxa okanye waqhubekeka, uzakufumana impatho obuqhele ukuyifumana kwi kliniki yakho.

❖ Are there risks and discomforts of taking part?
We understand that some participants may feel uncomfortable talking about personal issues, including sexual and contraceptive behaviours. Every effort will be made to make you comfortable during the interview. The research team is committed to ensuring your comfort during the interview. During the interview, if there are some questions you feel uncomfortable to answer, just tell the researcher [interviewer] to move on to the next question. We will offer counselling for those that feel the interview made them uncomfortable.

- Zikhona izichenge nokungaziva ukhululekile xa uthabatha inxaxheba?
Siyaqonda ukuba abanye babathathi nxaxheba ngahlebazive bengakhululekanga ngokuthetha ngempilo yaboo kuquka ngezesondo nocwangciso. Kuza kwenziwa konke ukuqinisekisa ukuba uziva ukhululekile.Iqela lophando lizimisele ukba uzive ukhululekile kudliwano-ndlebe.Ukuba kukho imibuzo ekwenza ungaziva kakuhle ngexesha lo dlliwano-ndlebe, xelela umbhexheshi adlulele komnye umbuzo.
Siyakubanika iingcebiso abathathi-nxaxheba abathe baziva bengakhulekanga ngenxa yodliwani-ndlebe.

❖ What are the possible benefits of taking part?
You will get no direct benefit from taking part in the research study, but your participation may help the researchers better understand the best way to provide birth control/family planning services for young girls in HIV care.
You will get no direct benefit from taking part in the research study, but your participation may help the researchers better understand the best way to provide birth control/family planning services for young girls in HIV care.

- Inzuzo ngokuthatha inxaxheba
Akukho nzuzo egqole ngqo kuwe, kodwa ukuthatha kwakho inxaxheba kungasinceda ekwazini nzulu ngeenkozo zocwangciso ukuhlangabezana neemfuno zabafazi abaselula

❖ If you take part, will anyone have knowledge of what you say?
All the information you share with the interviewer during the interview will be kept confidential (private). Only the research team will know your answers to the questions in this study. Your healthcare providers (nurses, doctors, counsellors etc), family members, teachers, friends etc will not have an idea of what you say. The only time that what you say may be divulged to appropriate

person/authority is when we are concerned about your safety or that of others. If this occurs, you would be asked if it is okay for us to talk to your clinical care providers or any person of your choice so that we can assist.

- Ukuba uthatha inxaxheba,ukhona omnye onganolwazi ngoko okuthethileyo?
  Lonke ulwazi owabelana ngalo kudliwano ndlebe kuyimfihlelo(bucala). Liqela lwezophando abazakwazi impendulo zakho kwimibuzo. Abanikezela ngonyango(oogqhira, amaNesi, abacebisi ngokunjalo, amalungu osapho, ootishala, izihlobo abazokwazi okuthethileyo. Ixesha apho konukuthi sikuxele oko okuthethileyo kwabo bafaneleyo kuxa sixhalabe ngokukhuseleka kwempilo yakho,okanye yabanye. Ukuba kuyenzeka oku, uzakucelwa ukuba kulungile na sikuxele oko kwabo banikezele ngenkonzo zonyango kwi kliniki yakho sizokwazi ukukunceda.

Reimbursement

Imbuyekezo

- ❖ Your daughter/ward will receive a light refreshment on completion of the interview.
- Intombi yakho/iwadi iyakunikwa amaqebengwana alula akugqiba udliwano-ndlebe
- ❖ What will happen to the information you give?
  Your answers will be recorded on a paper-based questionnaire developed for this research study and in addition, the information from the questionnaire will be stored on a password protected computer at the University of Cape Town.
  All interview materials will be stored in a locked filing cabinet. Only the research team will have access to the study documents. At the end of study (i.e after writing study results), all study documents will be destroyed.
- Kuzakwenzeka ntoni kulwazi olukhuphileyo?
  Iimpendulo zakho zizakushicelelwa kuxwebhu lwephepha lophando kwaye ukongeza, lwazi olukuxwebhu lazakugcinwa lukhuselekile kwi Yunivesithi yase Kapa.
  Konke okunxulumelene no dliwano ndlebe buyakugcinwa kukhuselekile. Liqela lwezophando lodwa abanokufikelela kumaxwebhu ophando. Ekupheleni kophando,(ukutsho,emveni kokubhala iziphumo) onke amaxwebhu ayakutshatyalaliswa.

For participants <18 years of age:

- ❖ Every person, including project staff, in South Africa has the duty to report known or suspected child abuse or neglect.
  Project staff (i.e., fieldstaff/interviewers and lead researcher) will report any form of physical abuse causing injury, deliberate neglect and sexual abuse (e.g rape, sexual assault , sexual grooming, sexual exploitation, and use of children in pornography including photographs) against you (if your age is less than 18 years), as indicated in terms of the Children's and Sexual Offences Acts, to a child protection agency/child welfare society, the provincial social development department, or to a police official if you report these directly to them, or if they reasonably suspect neglect or abuse.
  An appropriate referral system is in place to ensure you or your parent is referred to a welfare or protection agency.

Your confidentiality will be protected and we will provide counselling and manage expectations honestly.

These actions are necessary to protect you.

- Kuba thathi- nxaxheba <kweminyaka eli-18 ubudala:

  Wonke umntu, kubandakanywa abasebenzi iprojekthi, eMzantsi Afrika unoxanduva lokuxela okwaziwayo okanye ekurhanelwa ukuhlukumezwa okanye ukungakhathelelwa komntwana.

  Basebenzi be projekthi (oko kukuthi, basebenzi / babhexeshi bo dliwano- ndlebe kunye no mkhokeli wophando) bayakuxela naluphi uhlobo lokuxhatshazwa ngokwasemzimbeni eyenza umonzakalo, ukungahoywa ngabom kunye nokuxhatshazwa ngokwesondo (umzekelo, ukudlwengula, ukuhlaselwa ngokwesini, ukuqeqeshwa ngokwesondo, ukuxhatshazwa ngokwesondo, kunye nokusetyenziswa abantwana amanyala kuquka iifoto) ngokuchasene wena (ukuba ubudala bakho bunga ngaphantsi kwe-18 iminyaka), njengoko kuchazwe ku Mthetho waBantwana kunye ne Zenzo zokuxhapaza ngokwe Sondo, kwabo aba khusela abantwana, i Sebe lo Phuhliso lo Luntu le Phondo, okanye ipolisa ukuba ingxelo uyizisa ngqo kubo, okanye ukuba bathandabuza ukungahoywa okanye impatho embi.

  Inkqubo efanelekileyo ikhona ukuqinisedkisa ukuba wena nomzali nithunyelwa kwi arhente yokhuseleko.Imfihlelo yakho iyakukhuselwa kwaye sikunike neengcebiso ngokunyanisekileyo.

  La manyathelo ayimfuneko ukukhusela wena.

❖ Who will know whether you are taking part in the research study?

  Only the research team will know you are taking part in this research study. Your name will not be entered in any study records. The information you provide will only be identified by a code.

- Ngubani uzakwazi ukuba uthatha inxaxheba?

  Liqela lwezophando lodwa abaza kuba nolwazi ngokuthatha kwakho inxaxheba. Ulwazi olunikayo luyakunikwa uphawu.

❖ What will happen to the results of this research study?

  The results will be published in scientific journals so that researchers, policy makers, and healthcare practitioners can read. The information from the study would be very useful in service delivery. Summary of the results will also be sent to the Western Cape Department of Health and City of Cape Town's Health Directorate.

- Kuzakwenzeka ntoni kwiziphumo zoluphando?

  Iziphumo zizakupapashwa kumaxwebhu enzululwazi khon ukuze abaphandi,abasemagunyeni kwakunye nabanyangayo bakwazi ukuzifunda.Ulwazi ngophando luyakunceda kakhulu ngokuzisa iinkonzo ebantwini.

❖ Who has reviewed/approved the study?

  The research study has been reviewed and approved by the Human Research Ethics Committee at the University of Cape Town and the Western Cape Provincial department of Health and City of Cape Town Directorate of Health as well.

- Ngubani oqwalasele/wavuma oluphando?

  Oluphando luqwalaselwe kwaye lwavunywa yi Komiti yo Phando ngo Luntu kwi Yunivesiti yase Kapa ne Sebe le Mpilo lase Ntshona Koloni nesi Xeko sase Kapa kwicandelo lezeMpilo.

❖ What should you do to participate in this research study?

If you have decided to participate in this research, we would like to work you through the information sheet and assent/consent form. Once we are sure that you understand the information sheet and the assent/consent form, you will be asked to sign the assent/consent form. Please note that participants aged 14-17 years will be asked to provide a written parent's or legal guardian's consent before they can participate.

- Yintoni ekufuneka uyenzile ukuthatha inxaxheba?
  Ukuba ugqibe ekuthatheni inxaxheba koluphando, singathanda ukusebenzisana nawe ngoxwebhu lwemvume nelo lwazi. Xa sithe sabona ukuba uyaluqonda uxwebhu lo lwazi nolwe mvume, uzakucelwa ukuba utyikitye uxwebhu lwemvume. Nceda uqonde ukuba abathathi-nxaxheba abaphakathi kwe 14-17 yeminyaka bayakucelwa beze nemvume ebhaliweyo yomzali/mgcini phambi kokuthatha inxaxheba.

❖ Who do you contact if there is a problem?
If you have any concerns or queries regarding your participation in this research, you may wish to contact:

- Udibana nabani xa kukho ingxaki?
  Ukuba unazo naziphina iinxalabo malunga nokuthatha kwakho inxaxheba koluphando, ungathanda ukudibana no:

Biodun Olagbuji (Principal Researcher)
Doctoral Candidate, School of Public Health
University of Cape Town
Mobile: 0717243901
E-mail: biodun_olagbuji@yahoo.com

Appendix 8 (Afrikaans): Information sheet: HIV, adolescent and contraception study (inligtingsblad: miv, adolescent en voorbehoedmiddels studie)
PARTICIPANT ID NUMBER: …….DATE…….
DEELNEMER ID NOMMER:……DATUM…….

Invitation to participate

❖ Hello. I am [INTERVIEWER NAME]. I am a researcher working with a student who is doing this survey for his PhD degree at the University of Cape Town. We are conducting research with young girls 14-19 years attending HIV-related services in selected clinics in Khayelitsha, Klipfontein and Mitchells Plain. I would like to invite you to participate in the research. The aim of this research is to improve our understanding of the needs related to birth control/preventer in adolescent girls in HIV care. We would like to achieve this by inviting young girls 14-19 years attending HIV care in this clinic to take part in this research. To assist you decide if you would like to take part, I would like to share the information about the research with you. If you have any questions while I am explaining information about the research to you, please feel free to ask me.
Hello. I am [INTERVIEWER NAME]. I am a researcher working with a student who is doing this survey for his PhD degree at the University of Cape Town. We are conducting research with young girls young girls 14-19 years in HIV care in selected clinics in Khayelitsha, Klipfontein and Mitchells Plain.

I would like to invite you to participate in the research. The aim of this research is to improve our understanding of the needs related to birth control/preventer in adolescent girls in HIV care. We would like to achieve this by inviting young girls 14-19 years attending HIV care in this clinic to take part in this research. To assist you decide if you would like to take part, I would like to share the information about the research with you. If you have any questions while I am explaining information about the research to you, please feel free to ask me.

Uitnodiging om deel te neem

- Hello. Ek is [ONDERHOUDVOERDER NAAM]. Ek is 'n navorser wat werk met 'n student wat besig is met hierdie opname vir sy PhD-graad aan die Universiteit van Kaapstad. Ons is besig met n navorsing met jong meisies 14-19 jare oud wat in MIV-sorg dienste in geselekteerde klinieke in Khayelitsha, Klipfontein en Mitchells Plain. Ek wil u uitnooi om deel te neem in die navorsing. Die doel van hierdie navorsing is om ons begrip van die behoeftes wat verband hou met geboortebeperking / verhoed in tienermeisies in MIV-sorg te verbeter. Ons wil graag om dit te bereik deur te nooi jong meisies 14-19 jaar oud wat bywoon MIV-sorg in hierdie kliniek om deel te neem in hierdie navorsing. Om u te help besluit of u wil deelneem, wil ek graag die inligting oor die navorsing met u te deel. As u enige vrae het, terwyl ek inligting oor die navorsing verduidelik aan u, voel asseblief vry om my te vra.

❖ Why are we doing this research study?

We are doing this research to better understand issues related to birth control/contraception use among young girls living with HIV. We are also looking at how different HIV clinics provide family planning/birth control services for young girls living with HIV. This will help us to come up with a way to tailor family planning (birth control) services to what young girls living with HIV need and prefer.

We are doing this research to better understand issues related to birth control/contraception use among young girls in HIV care. We are also looking at how different clinics provide family planning/birth control services for young girls in HIV care. This will help us to come up with a way to tailor family planning (birth control) services to what young girls in HIV care need and prefer.

- Hoekom doen ons die navorsingstudie?

Ons doen hierdie navorsing om kwessies wat verband hou met geboortebeperking / kontrasepsie gebruik onder jong meisies wat in MIV-sorg is beter te verstaan. Ons is ook op soek na hoe verskillende MIV klinieke verskaf gesinsbeplanning / geboorte beheer dienste vir jong meisies wat in MIV-sorg is. Dit sal ons help om vorendag te kom met 'n manier om gesinsbeplanning (geboorte beheer) dienste op maat aan wat jong meisies wat in MIV-sorg is nodig het en verkies.

❖ Why have you been invited to take part?

You are being invited to participate in this research because we feel that your experiences will help us to understand how to improve family planning/birth control services for young girls in HIV care. We are inviting young girls aged 14 to 19 years to participate in this research study.

You are being invited to participate in this research because we feel that your experiences as a young girl aged 14 -19 years will help us to understand how to improve family planning/birth control services. for young girls in HIV care. We are inviting young girls aged 14 to 19 years to participate in this research study.

- Hoekom is u genooi om deel te neem?
  U word uitgenooi om deel te neem in hierdie navorsing omdat ons voel dat u ervarings as n meisie van 14-19 jare oud sal ons help om te verstaan hoe om gesinsbeplanning / geboorte beheer dienste te verbeter vir jong meisies in MIV-sorg. Ons nooi jong meisies tussen die ouderdomme van 14 tot 19 jaar om deel te neem in hierdie navorsingstudie

❖ What will happen if you decide to participate?
  For young girls aged 14 to 17 years, we will seek your parent's/legal guardian's approval to allow you to participate in this research. This means the lead researcher/PhD candidate and/or the interviewer/research assistant will approach your parent or legal guardian (either via telephone or physical contact) to inform him/her about the research and the parent/legal guardian consent form and thereafter a written parent's/legal guardian's consent will be sought. If your parent/legal guardian is telephoned and willing to give consent for your participation in the research study, we will ask you to give the consent form to him/her and return the signed consent form on your next scheduled clinic visit. In case we contact your parent/legal guardian physically, we will deliver the consent form ourselves and collect the signed version.
  For young girls aged 14 to 17 years, we will seek your parent's/legal guardian's approval to allow you to participate in this research. This means the lead researcher/PhD candidate and/or the interviewer/research assistant will ask you to give the consent form to him/her and return the signed consent form on your next scheduled clinic/interview visit. In case we contact your parent/legal guardian physically, we will deliver the consent form ourselves and collect the signed version (Please note we will not tell your parent or guardian your HIV status).

- Wat sal gebeur as u besluit om deel te neem?
  Vir jong meisies tussen die ouderdomme van 14-17 jaar, sal ons goedkeuring van u ouer / wettige voog nodig om u toelaat om deel te neem in hierdie navorsing. Dit beteken dat die hoofnavorser / PhD kandidaat en / of die onderhoudvoerder / navorsingsassistent sal nader u ouer of wettige voog (hetsy telefonies of fisiese kontak) aan hom / haar oor die navorsing en die ouer / wettige voog toestemming vorm en daarna 'n skriftelike toestemming van ouer / wettige voog sal gesoek word. As u ouer / wettige voog gebel is en is bereid om toestemming te gee vir u deelname aan die navorsingstudie, sal ons u vra om die toestemmingsvorm gee aan hom / haar en die getekende toestemmingsvorm terug bring op u volgende geskeduleerde kliniek besoek. In geval ons u ouer / wettige voog fisies kontak , sal ons die toestemming vorm onsself lewer en die getekende weergawe versame.(Let wel: ons sal nooit vir u ouer/wettige voog se van u MIV-status)

❖ We will request you to sign an assent form (for persons aged 14-17 years) or consent form (for persons aged 18 years and above).

- Ons sal u versoek om 'n instemming onderteken (vir persone 14-17 jaar) of toestemming vorm (vir persone tussen die ouderdomme van 18 jaar en ouer).

❖ We will ask you to answer questions about yourself including your medical and treatment history, and experiences with birth control/family planning/preventer.

- Ons sal u vra om vrae oor u self insluitend u mediese en behandeling geskiedenis en ervarings met geboortebeperking / gesinsbeplanning / verhoed beantwoord.

❖ We will ask you to spend 40-45 mins with an interviewer answering questions.
- Ons sal u vra om 40-45 minute te spandeer met 'n onderhoudvoerder en die vrae antwoord.

❖ The interview will take place in a comfortable location in the clinic where your privacy can be assured.
- Die onderhoud sal in 'n gemaklike plek in die kliniek plaasvind, waar u privaatheid kan verseker wees.

❖ You will be provided with a light refreshment, and you will be reimbursed only if you have incurred travel costs.
- U sal voorsien word met 'n ligte verversings, en u sal vergoed word slegs as u reiskoste aangegaan.

❖ Do you have to take part?
The decision to take part is yours and is voluntary, and you can ask for time to think about it. You don't have to take part if you don't wish to. If you decide to take part, that's nice. Whether you participate or not you will still get the same care as usual at the clinic.
- Moet u deel te neem?
Die besluit om deel te neem is joune en is vrywillig, en u kan vir meer tyd vra om oor dit te dink.U hoef nie om deel te neem as u nie wil nie. As u besluit om deel te neem, dit is lekker. Of u deelneem of nie,u sal nog steeds dieselfde sorg kry soos gewoonlik by die kliniek.

❖ Will you be able to withdraw from the research study?
Yes. You can stop taking part at any time during the interview without giving any reason. If you decide to stop participating at any time during the interview, please let the interviewer know before you withdraw. Whether you withdraw or continue your participation in the interview you will still get the same care as usual at the clinic.
- Sal u in staat wees om te onttrek van die navorsingstudie?
Ja. U kan ophou om deel te neem enige tyd gedurende die onderhoud en sonder enige rede. As u besluit om op te hou te enige tyd gedurende die onderhoud, kan u die onderhoudvoerder laat weet voordat u trek. Of u onttrek of voortgaan met u deelname aan die onderhoud,u sal nog steeds dieselfde sorg soos gewoonlik by die kliniek kry.

❖ Are there risks and discomforts of taking part?
We understand that some participants may feel uncomfortable talking about personal issues, including sexual and contraceptive behaviours. Every effort will be made to make you comfortable during the interview. The research team is committed to ensuring your comfort during the interview. During the interview, if there are some questions you feel uncomfortable to answer, just tell the researcher [interviewer] to move on to the next question. We will offer counselling for those that feel the interview made them uncomfortable.
- Is daar risiko's en ongemak as u deel te neem?

Ons verstaan dat sommige deelnemers ongemaklik voel as hulle oor hul persoonlike kwessies praat, insluitend seksuele en kontraseptiewe gedrag. Alles moontlik sal gedoen word om u gemaklik tydens die onderhoud te maak. Die navorsingspan is daartoe verbind om u gemak voel tydens die onderhoud. Tydens die onderhoud, indien daar 'n paar vrae is wat u voel ongemaklik om te antwoord, sê net vir die navorser [onderhoudvoerder] aan te beweeg na die volgende vraag. Ons bied berading vir die ene wat voel die onderhoud het hulle ongemaklik voel.

❖ What are the possible benefits of taking part?

You will get no direct benefit from taking part in the research study, but your participation may help the researchers better understand the best way to provide birth control/family planning services for young girls in HIV care.

You will get no direct benefit from taking part in the research study, but your participation may help the researchers better understand the best way to provide birth control/family planning services for young girls in HIV care.

- Wat is die moontlike voordele van deelname?

U sal geen direkte voordeel te kry om deel te neem in die navorsingstudie, maar u deelname kan help om die navorsers beter te verstaan die beste manier om geboortebeperking / gesinsbeplanning dienste vir jong meisies wat in MIV-sorg is.

❖ If you take part, will anyone have knowledge of what you say?

All the information you share with the interviewer during the interview will be kept confidential (private). Only the research team will know your answers to the questions in this study. Your healthcare providers (nurses, doctors, counsellors etc), family members, teachers, friends etc will not have an idea of what you say. The only time that what you say may be divulged to appropriate person/authority is when we are concerned about your safety or that of others. If this occurs, you would be asked if it is okay for us to talk to your clinical care providers or any person of your choice so that we can assist.

- As u deelneem, sal 'n mens weet wat u gesê het?

Al die inligting wat u deel met die onderhoudvoerder tydens die onderhoud sal vertroulik (privaat) gehou word. Slegs die navorsingspan sal u antwoorde op die vrae in hierdie studie te leer ken. U voorsieners van gesondheidsorg (verpleegsters, dokters, beraders, ens), familielede, onderwysers, vriende ens sal nie 'n idee het van wat u gesê. Die enigste keer dat dit wat u sê kan bekend gemaak word aan geskikte persoon / gesag is wanneer ons is bekommerd oor u veiligheid of dié van ander. As dit gebeur, sal u gevra word of dit in orde is vir ons om u kliniese sorg of iemand van u keuse praat sodat ons kan help.

❖ What will happen to the information you give?

Your answers will be recorded on a paper-based questionnaire developed for this research study and in addition, the information from the questionnaire will be stored on a password protected computer at the University of Cape Town.

All interview materials will be stored in a locked filing cabinet. Only the research team will have access to the study documents. At the end of study (i.e after writing study results), all study documents will be destroyed.

- Wat sal gebeur met die inligting wat u gee?
  U antwoorde sal aangeteken word op 'n papier-gebaseerde vraelys wat is ontwikkel vir hierdie navorsingstudie en benewens, die inligting van die vraelys word gestoor op 'n wagwoord beskerm rekenaar by die Universiteit van Kaapstad. Alle onderhoud materiaal sal gestoor word in 'n geslote liasseerkabinet. Slegs die navorsingspan sal toegang tot die studie dokumente. Aan die einde van studie (d.w.s na aflegging van studie resultate), al die studie vernietig sal word.

For participants <18 years of age:

❖ Every person, including project staff, in South Africa has the duty to report known or suspected child abuse or neglect.
  Project staff (i.e., fieldstaff/interviewers and lead researcher) will report any form of physical abuse causing injury, deliberate neglect and sexual abuse (e.g rape, sexual assault , sexual grooming, sexual exploitation, and use of children in pornography including photographs) against you (if your age is less than 18 years), as indicated in terms of the Children's and Sexual Offences Acts, to a child protection agency/child welfare society, the provincial social development department, or to a police official if you report these directly to them, or if they reasonably suspect neglect or abuse.
  An appropriate referral system is in place to ensure you or your parent is referred to a welfare or protection agency.
  Your confidentiality will be protected and we will provide counselling and manage expectations honestly.
  These actions are necessary to protect you.

Vir deelnemers <18 jaar oud:

- Elke persoon, insluitende projek personeel, in Suid-Afrika het die plig om bekend of vermoedelike kindermishandeling of verwaarlosing aanmeld. Projek personeel (dit wil sê, gebied personeel / onderhoudvoerders en hoofnavorser) sal enige vorm van fisiese mishandeling rapporteer letsel, doelbewuste verwaarlosing en seksuele mishandeling (bv verkragting, seksuele aanranding, seksuele versorging, seksuele uitbuiting, en die gebruik van kinders in pornografie insluitend foto's) teen u (of u ouderdom is minder as 18 jaar oud), soos aangedui in terme van die Kinderwet en Seksuele Misdrywe Hand, 'n kinderbeskermingseenheid agentskap / Kindersorgvereniging, die provinsiale departement maatskaplike ontwikkeling, of aan 'n polisiebeampte as u rapporteer dit direk vir hulle of hulle redelik verdagte verwaarlosing of mishandeling. 'N Gepaste verwysingstelsel in plek om u te verseker of u ouers verwys na 'n welsyn of Protection Agency. U vertroulikheid sal beskerm word en ons sal berading verskaf en te bestuur verwagtinge eerlik. Hierdie optrede is nodig om u te beskerm.

❖ Who will know whether you are taking part in the research study?
  Only the research team will know you are taking part in this research study. Your name will not be entered in any study records. The information you provide will only be identified by a code.

- Wie sal weet of u deel te neem in die navorsingstudie?
  Slegs die navorsingspan sal weet u is deel te neem aan hierdie navorsingstudie. U naam sal nie in enige studie rekords aangeteken word. Die inligting wat u verskaf, sal slegs geïdentifiseer word deur 'n kode.

❖ What will happen to the results of this research study?
  The results will be published in scientific journals so that researchers, policy makers, and healthcare practitioners can read. The information from the study would be very useful in service delivery. Summary of the results will also be sent to the Western Cape Department of Health and City of Cape Town's Health Directorate.

- Wat sal gebeur met die resultate van hierdie navorsingstudie?
  Die resultate sal gepubliseer in wetenskaplike tydskrifte sodat navorsers, beleidmakers, en praktisyns gesondheidsorg kan lees. Die inligting van die studie sou baie nuttig in dienslewering wees. Opsomming van die resultate sal ook aan die Wes-Kaapse Departement van Gesondheid en die Stad Kaapstad se Gesondheid Direktoraat gestuur.

❖ Who has reviewed/approved the study?
  The research study has been reviewed and approved by the Human Research Ethics Committee at the University of Cape Town and the Western Cape Provincial department of Health and City of Cape Town Directorate of Health as well. (Note to reader/reviewer: I have added this section for completeness. This section is only valid after HREC approval.

- Wie het die studie nagegaan / goedgekeur ?
  Die navorsingstudie is hersien en deur die Menslike Navorsingsetiekkomitee aan die Universiteit van Kaapstad en die Wes-Kaapse Provinsiale Departement van Gesondheid en die Stad Kaapstad Direktoraat van Gesondheid goedgekeur sowel. (Nota aan die leser / resensent: Ek het hierdie artikel vir volledigheid bygevoeg. Hierdie afdeling is slegs geldig nadat HREC goedkeuring..

❖ What should you do to participate in this research study?
  If you have decided to participate in this research, we would like to work you through the information sheet and assent/consent form. Once we are sure that you understand the information sheet and the assent/consent form, you will be asked to sign the assent/consent form. Please note that participants aged 14-17 years will be asked to provide a written parent's or legal guardian's consent before they can participate.

- Wat moet u doen om deel te neem in hierdie navorsingstudie?
  As u besluit het om deel te neem in hierdie navorsing, wil ons graag met u werk deur die inligtingstuk en instemming / toestemming vorm. Sodra ons is seker dat u die inligtingsblad en die instemming / toestemming dokument verstaan, sal u gevra word om die instemming / toestemming te onderteken. Let asseblief daarop dat deelnemers 14-17 jaar oud sal gevra word om 'n skriftelike ouer of wettige voog toestemming voordat hulle kan deelneem.

- ❖ Who do you contact if there is a problem?
  If you have any concerns or queries regarding your participation in this research, you may wish to contact:
- Wie sal u kontak indien daar 'n probleem is?
  As u enige probleme ondervind of navrae oor u deelname aan hierdie navorsing, kan u vir ons kontak:

Biodun Olagbuji (Principal Researcher)
Doctoral Candidate, School of Public Health
University of Cape Town
Mobile: 0717243901
E-mail: biodun_olagbuji@yahoo.com

Appendix 9: Comprehension assessment sheet: HIV, adolescent and contraception study exit survey (uxwebhu lokuvavanya ukuqonda: HIV, abaselula kunye nophando ngocwangciso)

PARTICIPANT ID NUMBER: ……..DATE…….
ISAZISI SOMTHATHI-NXAXHEBA:……..UMHLA……

Please provide response to each question below to show that you have adequate knowledge of what the study is about.

Nceda unikeze impendulo kumbuzo ngamye kule ingaphantsi ukubonakalisa ukuba unalo ngokwaneleyo ulwazi malunga noluphando.

1	I confirm that the study information sheet and consent form have been adequately explained to me and I understand the information on the study. Ndiyangqina ukuba ixwebhu lolwazi ngophando kunye noxwebhu lemvume zicaciswe ngokwaneleyo kum kwaye ndiyaluqonda ulwazi malunga noluphando	**Yes Ewe** **No Hayi**
2	I have had the opportunity to ask questions about the content of the	**Yes Ewe**

	information sheet and consent form, and satisfied with the explanations provided by the interviewer. Bendinalo ithuba lokubuza imibuzo malunga ngokuqulathwe kwixwebhu lolwazi nexwebhu lemvume kwaye ndanelisekile yingcaciso yombhexeshi wodliwano ndlebe	**No Hayi**
3	I understand why I am being asked to participate in the study, and the purpose of the study. Ndiyaqonda kutheni ndicelwa ukuba ndithathe inxaxheba koluphando, kunye nenjongo yoluphando.	**Yes Ewe** **No Hayi**
4	I understand that my participation is voluntary. Ndiyaqonda ukuthatha inxaxeba kungokuthanda kwam.	**Yes Ewe** **No Hayi**
5	I understand that I can withdraw from the interview at any time without providing any reason Ndiyaqonda ukuba ndingarhoxa kudliwano-ndlebe nangaliphinina ixesha nangaphandle kwesizathu.	**Yes Ewe** **No Hayi**
6	I understand that whether I withdraw or continue my participation in the	**Yes Ewe** **No Hayi**

	interview I will still get the same care as usual at the clinic. Ndiyaqonda ukuba nokuba ndiyarhoxa okanye ndiyaqhubekeka nodliwano-ndlebe ndizakufumana inkathelelo endiyiqhelileyo apha ekliniki.	
7	I understand the possible discomforts that may occur during interviews. Ndiyaqonda ukuba ngahle ungaziva ukhululekile kudliwano-ndlebe.	**Yes Ewe** **No Hayi**
8	I understand that there is no direct benefit of the study to me. Ndiyaqonda ukuba akukho nzuzo yophando egqole kum ngqo	**Yes Ewe** **No Hayi**
9	I understand that my privacy/identity will be protected. Ndiyaqonda ukuba isazisi sam siyakuhlala sikhuselekile bucala.	**Yes Ewe** **No Hayi**
10	I understand that all the information I provide will be kept secret, and only the research team will know the information. Ndiyaqonda ukuba lonke ulwazi endilukhuphileyo luyakuhlala	**Yes Ewe** **No Hayi**

	luyimfihlelo, kwaye liqela lophando lodwa eliyakwazi ngulolwazi.	
11	I have information on whom to contact if I have any problem or concern about my participation in the research. Ndinalo ulwazi lokuba ngubani endinokunxumelelana naye ngokuthatha inxaxheba koluphando	**Yes Ewe** **No Hayi**
12	I agree to participate in the research study. Ndiyavuma ukuthatha inxaxheba koluphando	**Yes Ewe** **No Hayi**
13	I have not previously participated in this particular research in this same clinic or any other clinic. Andizange ndithabathe inxaxheba koluphando ngaphambili kule kliniki okanye nayiphina I kliniki.	**Yes Ewe** **No Hayi**
14	The information about the study has been provided to me in a language I understand. Ulwazi malunga noluphando ndilufumene ngolwimi endiliqondayo.	**Yes Ewe** **No Hayi**

Participant ID Number……. Signature/thumbprint…….Date…….

ISAZISI SOMTHATHI-NXAXHEBA…….. Umtyikityo/bhontsi……..Umhla…….

Interviewer

I, [Name of interviewer] have explained the research purpose, procedures, and the risks and benefits relating to the research in a language of choice of the interviewee.

Mbhexeshi wo dliwano-ndlebe

- Mna,(igama lombhexeshi wo dliwano-ndlebe) ndiyicacisile injongo, imigaqo, kwakunye nezichenge, nenzuzo ezinxulumelene noluphando ngolwimi olukhethwe ngumthathi-nxaxheba.

Name ……. Signature……. Date……
Igama…… Umtyikityo…… Umhla……

Appendix 10 (Afrikaans): Participant assent/consent form: HIV, adolescent and contraception study exit survey (ixwebhu lokwamkela/lwemvume: hiv, abaselula naku phando ngocwangciso)

PARTICIPANT ID NUMBER: ……DATE…….
ISAZISI SOMTHATHI-NXAXHEBA:…….UMHLA…….

Adolescent informed assent/consent

Imvume/ukwamkela okucacisiweyo koselula

- ❖ Hello. Thank you for accepting to discuss with us today. I am [INTERVIEWER NAME]. Before you sign the assent/consent form, I would like to share further the information about the research with you. The purpose of this information is to help you decide whether you will participate in the study or not.
- Molo. Enkosi ukwamkela ukuxoxa kunye nathi namhlanje.Ndingu [IGAMA LOMBHEXESHI WO DLIWANO NDLEBE]. Phambi kokuba utyikitye uxwebhu lokwamkela / imvume, Ndingathanda ukwabelana kunye nawe ngakumbi ulwazi malunga nophando. Injongo yale ngcaciso imfutshane kukunceda wena wenze isigqibo sokuba uzathatha inxaxheba kuphando okanye hayi.

Introduction/study purpose

- ❖ Researchers from the University of Cape Town are requesting you to take part in a research study.

You are being asked to participate in a research study on birth control/preventer. This study does not involve drawing blood from you or giving you medications.
We are inviting young girls aged 14 to 19 years in HIV care to participate in this research study.
The information on this form will be explained to you.
Please feel free to ask any questions that you may have.

Intshayelelo / injongo yophando

- Abaphandi abasuka kwiYunivesithi yaseKapa bacela ukuba uthathe inxaxheba kwisifundo sophando.
  Wena uyacelwe ukuba uthathe inxaxheba kwisifundo sophando ngolawulo lenzalo / isikhuseli. Olu Uphando alubandakanyi ukutsalwa kwegazi kuwe okanyeukunika amayeza.
  Simema amantombazana aselula abaneminyaka engama-14 ukuya kwi-19 abakhathalelwe nge HIV ukuba bathathe inxaxheba kwesi sifundo sophando.
  Ulwazi kweli xwebhu luza kucaciswa kuwe.
  Nceda uzive ukhululekile ukubuza nayiphi na imibuzo onokuba unayo

Purpose of Study

❖ The purpose of this research is to better understand issues related to birth control/contraception use among young girls living with HIV. Ultimately, the findings of this research would help to increase our understanding of the ways to improve access to contraceptive services.

Injongo yoluphando

- Injongo yoluphando kukufuna ukuqonda ngcono malunga nemiba enxulumelene nocwangciso/ukusetyenziswa kocwangciso ngamantombazana aselula aphila nentsholongwane ka gawulayo(HIV). Ekugqibeleni, iziphumo zoluphando zizakunceda ekunyuseni izinga lokuqonda iindlela zokuphucula ukufumaneka kweenkonzo zocwangciso.

Description of the Study Procedures

❖ If you agree to participate in the research study, you will be asked to provide answers to some questions about birth control/preventer and the related services in the clinic.
The interview will take place in a comfortable location in the clinic where your privacy can be assured.
We aim for an interview that will last approximately 40–45 minutes.

The information shared during the interview will be kept private, and only key members of the research team will have access to it.

Ingcaciso yemigaqo yoluphando

- Ukuba uyavuma ukuthabatha inxaxheba koluphando, uzakucelwa ukuba usinike iimpendulo kweminye iimibuzo malunga neenkonzo zocwangciso/isikhuseli nezinye iinkonzo ezingqameneyo apha ekliniki.
  Udliwano-ndlebe luyakuqhutywa kwindawo ekhululekileyo apha ekliniki nalapho siyakuqinisekisa ukuba isecaleni.
  Sijonge ekubeni udliwano-ndlebe luthabathe into epha kwi 40-45 yemizuzu
  Ulwazi owabelene ngalo kudliwano-ndlebe luyakugcinwa luyimfihlelo, kwaye ngamalungu ophando aphambili odwa azakufikelela kulo. Ulwazi alusayi kwabelwana nalo nomzali

Risks/Discomforts of Being in this Study

- ❖ There are no major risks.
  You may feel uncomfortable talking about your personal life. You do not have to answer any question that may make you feel uncomfortable.
  We will offer counselling for participants that feel the interview made them uncomfortable.

Izichenge/Ukungaziva ukhululekilei xa ukuphando

- Azikho izichenge ezikhulu.
  Ngahle uziveungakhululekanga ngokuthetha ngempilo yakho. Awunyazelekanga ukuphendula nawuphina umbuzo onokuthi ukwenze uzive ungakhululekanga.
  Siyakubanika iingcebiso abathathi-nxaxheba abathe baziva bengakhulekanga ngenxa yodliwani-ndlebe.

Benefits of Being in the Study

- ❖ There is no direct benefit to you, but your participation is likely to assist us to know more about how to tailor birth control/preventer services to meet the needs of young women in HIV care.

Inzuzo ngokuthatha inxaxheba

- Akukho nzuzo egqole ngqo kuwe, kodwa ukuthatha kwakho inxaxheba kungasinceda ekwazini nzulu ngeenkozo zocwangciso ukuhlangabezana neemfuno zabafazi abaselula

Confidentiality

- The confidentiality of documents and records of this study will be maintained and the only thing that will be disclosed is any form of maltreatment (including physical ill-treatment, emotional maltreatment, sexual abuse or neglect) of a participant who is 14 years of age or older but under the age of 18 years, but this will be reported to the social development department, a child welfare agency, or a police official in terms of legislation.

  If you are 14 years of age or older but under the age of 18 years and you disclose experiencing some form of violence or maltreatment (including physical ill-treatment, emotional maltreatment, sexual abuse or neglect) or if a research staff reasonably suspects violence or maltreatment, and that this has not been reported to a relevant agency, we are required by law to report this to the social development department, a child welfare agency, or a police official in terms of legislation. Someone will then investigate and see what needs to be done to keep you safe. Your confidentiality will be protected and we will provide counselling and manage expectations honestly. These actions are necessary to protect you.

  All the research data will not be available to anyone outside the research team.

  Research documents and records will be kept in a locked file, and all electronic information will be coded and secured using a password protected file.

  Once we have completed the study and written the results, all study documents will be destroyed.

Imfihlelo

- Amaxwebhu oluphando ayakuhlala eyimfihlelo kwaye eyonanto iyakuthi ivezwe kuxa kukho ukuhlukunyezwa(kuquka ukuhlukunyezwa ngokwasemzimbeni, emoyeni, ngokwesini okanye ukungakhathalelwa), komthathi nxaxheba ominyaka eyi 14 okanye ukunyuka kodwa abengaphantsi kwe 18 iminyaka, kodwa kuyakuxelwa kwisebe lezoluntu, i-arhente ejongene nemfuno zabantwana, okanye ipolisa njengoko umthetho usitsho.

  Ukubangaba uneminyaka eyi 14 okanye ukunyuka kodwa ungapahantsi kwe 18 iminyaka kwaye usixelele ukuba ebeke wadibana nobundlobongela okanye ukungaphathwa kakuhle(kuquka ukungaphathwa kakuhle emzimbeni,emoyeni,ngesini okanye ukungakhathalelwa) okanye ukuba umqeshwa wophando uhlanela ubundlobongela okanye impatho embi, kwaye akuzange kuxelwe kwi arhente ezingqamane noku, siyagunyaziswa ngumthetho ukuba sikuxele oku sebe lezoluntu, kwi arhente ezijongene nokukhuselwa kwabantwana, okanye kwi polisa njengoko umthetho usitsho. Ukhona umntu ozakuphanda abone ukuba yintoni na enokwenziwa ukugcina ukhuselekile.

Imfihlelo yakho iyakukhuselwa kwaye uyakucetyiswa ngendlela enyanisekileyo. Lamanyathelo ayafuneka ukukhusela wena.

Onke amaxwebhu noko kushicelelweyo akusayi kufumaneka nakubani na ongaphandle kwiqela loluphando.

Amaxwebhu ophando noko kushicelelweyo ayakugcinwa eluvalelweni, kwaye lonke ulwazi locwephesho luyakukhuselwa ngenombolo yokuvula.

Xa uphando lugqityiwe kwaye neziphumo zibhaliwe, onke amaxwebhu ophando ayakutshatyalaliswa.

Reimbursement

You will receive a light refreshment on completion of the interview.

Imbuyekezo

Uyakunikwa amaqebengwana alula akugqiba udliwano-ndlebe.

Right to Refuse or Withdraw

- The decision to participate in this research study is entirely up to you. It is entirely voluntary.

  If you are uncomfortable about any of the interview questions you can choose not to answer or participate in that part of the question.

  You have the right to withdraw from the interview at any time during the interview process.

  There will be no penalty if you decide to quit at any time during the interview

  Whether you participate or not you will still get the same care as usual at the clinic.

Igunya lokungavumi okanye urhoxe

- Isigqibo sokuthatha inxaxheba koluphando sixhomekeke kuwe. Uyazikhethela.

  Ukuba uziva ungakhululekanga malunga nayiphina imibuzo yodliwano-ndlebe unakho ukukhetha ukungaphenduli okanye ungathathi inxaxheba kulombuzo.

  Unalo igunya lokurhoxa kudliwano-ndlebe nakweliphina ixesha ukudliwano-ndlebe.

  Akusayi kubakho isohlwayo ukuba ugqibe ekubekeni phantsi nangaliphi ixesha ukudliwano-ndlebe

Right to Ask Questions and Report Concerns

- You have the right to ask any questions in relation to this research study and to have information about this research study less confused or more understandable.

  If you have any questions about this research study, you can contact me at 0717243901.

If you have any problems or concerns that occur as a result of your participation in the research study, you can contact the lead researcher at 0717243901.

If you have any concerns about your right as a research participant that have not been adequately address by the interviewer, you contact the lead researcher at 0717243901

If you think your concerns are not well addressed, you can report to Human Research Ethics Committee at the Faculty of Health Sciences University of Cape Town at +27214066346

Igunya lokubuza imibuzo nokuxela iinxalabo

- Unalo igunya lokubuza nayiphina imibuzo enxulumene noluphando, kwaye ubenolwazi olungaphixanisiyo okanye uqonde ngcono.
  Ukuba unemibuzo malunga noluphando, unganxibelelana nam apha:0717243901
  Ukuba unazo naziphina iinxalabo malunga namalungelo akho njengomthathi-nxaxheba koluphando ezithe azaphendululeka ngendlela ngumbhexeshi wophando, unakho ukunxibelelana nomkhokeli wophando apha:0717243901
  Ukuba ucinga ukuba iinxalabo zakho aziphendulekanga ngendlela, ungaxelela I- Komiti Yophando Yoluntu kwi Candelo lwe Zempilo kwi Dyunivesiti yase Kapa apha+27214066346

Consent/assent

- ❖ Your signature/thumbprint below confirms that you have agreed to participate in the research study, and that you have sufficient understanding of the information sheet and consent form. You will be given a signed/thumb printed copy of this form to keep. The lead researcher will keep a copy.
- Umtyikityo wakho/ubhontsi ungqina ukuba uvumile ukuthabatha inxaxheba koluphando, kwaye unako ukuqonda okwaneleyo ngexwebhu lolwazi nelemvume. Uzakunikwa i-kopi etyikityiweyo/enobhontsi yelixwebhu. Umphandi oyintloko uzakugcina i-kopi.

Biodun Olagbuji (Principal Researcher)
Doctoral Candidate, School of Public Health
University of Cape Town
Mobile: 0717243901
E-mail: biodun_olagbuji@yahoo.com

Signature/thumbprint of participant…… Date……..

Signature of research staff…… Date……..

Appendix 11. (Afrikaans): Participant assent/consent form: HIV, adolescent and contraception study exits urvey (deelnemer instemming/toestemmings vorm: miv, adolescent en voorbehoedmiddels studie opname)

PARTICIPANT ID NUMBER: ……DATE…….
DEELNEMER ID NOMMER:……DATUM…….

Adolescent informed assent/consent

- Hello. Thank you for accepting to discuss with us today. I am [INTERVIEWER NAME]. Before you sign the assent/consent form, I would like to share further the information about the research with you. The purpose of this information is to help you decide whether you will participate in the study or not.

Adolessente ingeligte instemming / toestemming

- Hello. Dankie vir die aanvaarding van vandag om te gesels met ons. Ek is [ONDERHOUDVOERDER NAAM]. Voordat u die instemming / toestemming vorm te onderteken, wil ek graag die inligting oor die navorsing met u verdere deel. Die doel van hierdie inligting is om u te help besluit of u sal deelneem aan die studie of nie.

Introduction/study purpose

- Researchers from the University of Cape Town are requesting you to take part in a research study.
  You are being asked to participate in a research study on birth control/preventer. This study does not involve drawing blood from you or giving you medications.
  We are inviting young girls aged 14 to 19 years in HIV care to participate in this research study.
  The information on this form will be explained to you.
  Please feel free to ask any questions that you may have.

Inleiding / studie doeleindes

- Navorsers van die Universiteit van Kaapstad versoek u om deel te neem aan 'n navorsingstudie.
  U word gevra om deel te neem aan 'n navorsingstudie oor geboortebeperking / verhoed. Hierdie studie behels nie om bloed te trek uit u of gee u medikasie.
  Ons nooi jong meisies 14 tot 19 jaar oud in MIV-sorg om deel te neem in hierdie navorsingstudie.
  Die inligting op hierdie vorm sal aan u verduidelik word.
  Voel asseblief vry om enige vrae wat u mag hê te vra.

Purpose of Study

- The purpose of this research is to better understand issues related to birth control/contraception use among young girls living with HIV. Ultimately, the findings of this research would help to increase our understanding of the ways to improve access to contraceptive services.

Doel van studie

- Die doel van hierdie navorsing is om kwessies wat verband hou met geboortebeperking / kontrasepsie gebruik onder jong meisies wat met MIV leef beter te verstaan. Uiteindelik sal die bevindinge van die navorsing te help om ons begrip van die maniere om toegang tot voorbehoedmiddels dienste te verbeter verhoog.

Description of the Study Procedures

- If you agree to participate in the research study, you will be asked to provide answers to some questions about birth control/preventer and the related services in the clinic.
  The interview will take place in a comfortable location in the clinic where your privacy can be assured.
  We aim for an interview that will last approximately 40–45 minutes.
  The information shared during the interview will be kept private, and only key members of the research team will have access to it.

Beskrywing van die studie prosedures

- As u saam stem om deel te neem in die navorsingstudie, sal u gevra word om antwoorde op 'n paar vrae oor geboortebeperking / verhoed en die verwante dienste in die kliniek verskaf.
  Die onderhoud sal plaasvind in 'n gemaklike plek in die kliniek waar u privaatheid kan verseker wees.
  Ons streef na 'n onderhoud wat ongeveer 40-45 minute sal duur.
  Die inligting gedeel tydens die onderhoud sal privaat gehou, en net die belangrikste lede van die navorsingspan sal toegang daartoe het.

Risks/Discomforts of Being in this Study

- There are no major risks.
  You may feel uncomfortable talking about your personal life. You do not have to answer any question that may make you feel uncomfortable.
  We will offer counselling for participants that feel the interview made them uncomfortable.

Risiko's / ongemak daarvan om in hierdie studie

- Daar is nie 'n groot risiko's.

U kan ongemaklik voel as u praat oor u persoonlike lewe. U hoef nie om enige vraag wat mag u ongemaklik laat voel beantwoord.
Ons bied berading vir deelnemers wat die onderhoud voel het hulle ongemaklik.

Benefits of Being in the Study

- ❖ There is no direct benefit to you, but your participation is likely to assist us to know more about how to tailor birth control/preventer services to meet the needs of young women in HIV care.

Voordele om in die studie te wees

- Daar is geen direkte voordeel vir u, maar u deelname is geneig om ons te help om meer oor hoe om op maat van geboorte beheer / verhoed dienste aan die behoeftes van jong vroue in MIV-sorg ontmoet weet.

Confidentiality

- ❖ The confidentiality of documents and records of this study will be maintained and the only thing that will be disclosed is any form of maltreatment (including physical ill-treatment, emotional maltreatment, sexual abuse or neglect) of a participant who is 14 years of age or older but under the age of 18 years, but this will be reported to the social development department, a child welfare agency, or a police official in terms of legislation.
  If you are 14 years of age or older but under the age of 18 years and you disclose experiencing some form of violence or maltreatment (including physical ill-treatment, emotional maltreatment, sexual abuse or neglect) or if a research staff reasonably suspects violence or maltreatment, and that this has not been reported to a relevant agency, we are required by law to report this to the social development department, a child welfare agency, or a police official in terms of legislation. Someone will then investigate and see what needs to be done to keep you safe. Your confidentiality will be protected and we will provide counselling and manage expectations honestly. These actions are necessary to protect you.
  All the research data will not be available to anyone outside the research team.
  Research documents and records will be kept in a locked file, and all electronic information will be coded and secured using a password protected file.
  Once we have completed the study and written the results, all study documents will be destroyed.

Vertroulikheid

- Die vertroulikheid van dokumente en rekords van hierdie studie sal gehandhaaf word en die enigste ding wat sal bekend gemaak word is enige vorm van mishandeling (insluitende fisiese mishandeling, emosionele mishandeling, seksuele misbruik of verwaarlosing) van 'n

deelnemer wat 14 jaar oud of ouer, maar jonger as 18 jaar, maar dit sal gerapporteer word aan die ontwikkeling afdeling maatskaplike, 'n kindersorg-agentskap, of 'n polisiebeampte in terme van wetgewing.

As u 14 jaar of ouer is, maar onder die ouderdom van 18 jaar en u openbaar ervaar een of ander vorm van geweld of mishandeling (insluitende fisiese mishandeling, emosionele mishandeling, seksuele misbruik of verwaarlosing) of as 'n navorsing personeel vermoed geweld of mishandeling, en dat dit nog nie gerapporteer word aan 'n toepaslike agentskap, ons is deur die wet vereis om dit te rapporteer aan die ontwikkeling afdeling maatskaplike, 'n Kinderwelsyn agentskap, of 'n polisiebeampte in terme van wetgewing. Iemand sal dan ondersoek en kyk wat kan gedoen word om u veilig te hou. U vertroulikheid sal beskerm word en ons sal berading verskaf en eerlik verwagtinge te bestuur . Hierdie optrede is nodig om u te beskerm.

Al die navorsing data is nie beskikbaar aan enigiemand buite die navorsingspan wees.

Navorsing dokumente en rekords sal in 'n geslote lêer gehou word, en alle elektroniese inligting sal gekodeer word en verseker met behulp van 'n wagwoord beskermde lêer.Sodra ons die studie voltooi het en geskryf die resultate, sal al die studie-dokumente vernietig.

Reimbursement

- You will receive a light refreshment on completion of the interview.

Vergoeding

- U sal 'n ligte verversings ontvang na afloop van die onderhoud.

Right to Refuse or Withdraw

- The decision to participate in this research study is entirely up to you. It is entirely voluntary. If you are uncomfortable about any of the interview questions you can choose not to answer or participate in that part of the question.

  You have the right to withdraw from the interview at any time during the interview process. There will be no penalty if you decide to quit at any time during the interview

  Whether you participate or not you will still get the same care as usual at the clinic.

Reg om te weier of te onttrek

- Die besluit om deel te neem in hierdie navorsingstudie is heeltemal aan u. Dit is heeltemal vrywillig.

  As u ongemaklik oor enige van die onderhoud vrae is, u kan kies om nie te antwoord of deel te neem in daardie deel van die vraag.

  U het die reg om te onttrek van die onderhoud te enige tyd gedurende die onderhoud proses.

Daar sal geen straf wees as besluit om op te hou te enige tyd gedurende die onderhoud. Of u deelneem of nie, u sal nog steeds dieselfde sorg soos gewoonlik by die kliniek kry.

Right to Ask Questions and Report Concerns

- You have the right to ask any questions in relation to this research study and to have information about this research study less confused or more understandable.
  If you have any questions about this research study, you can contact me at 0717243901.
  If you have any problems or concerns that occur as a result of your participation in the research study, you can contact the lead researcher at 0717243901.
  If you have any concerns about your right as a research participant that have not been adequately address by the interviewer, you contact the lead researcher at 0717243901
  If you think your concerns are not well addressed, you can report to Human Research Ethics Committee at the Faculty of Health Sciences University of Cape Town at +27214066346

Reg om Vrae te Vra en Rapporteer Kommernisse

- U het die reg om enige vrae met betrekking om hierdie navorsingstudie vra en om inligting oor hierdie navorsingstudie minder verward of meer verstaanbaar te hê.
  Indien u enige vrae oor hierdie navorsingstudie, kan u my kontak by 0717243901.
  Indien u enige probleme of bekommernisse wat plaasvind as gevolg van u deelname aan die navorsingstudie het, kan u die hoofnavorser kontak by 0717243901.
  Indien u enige kommer oor u regte as 'n navorsingsdeelnemer wat nie voldoende aan te spreek deur die onderhoudvoerder, kontak u die hoofnavorser by 0717243901
  As u dink u besorgdheid is nie goed aangespreek is, kan u by die Fakulteit Gesondheidswetenskappe om Menslike Navorsingsetiekkomitee Universiteit van Kaapstad by +27214066346 rapporteer.

Consent/assent

- Your signature/thumbprint below confirms that you have agreed to participate in the research study, and that you have sufficient understanding of the information sheet and consent form. You will be given a signed/thumb printed copy of this form to keep. The lead researcher will keep a copy.

Toestemming / instemming

- U handtekening / duimafdruk hieronder bevestig dat u ingestem het om deel te neem in die navorsingstudie, en dat u genoeg begrip van die inligtingstuk en toestemmingsvorm. U sal 'n getekende / duim gedrukte afskrif van hierdie vorm gegee word aan te hou. Die hoofnavorser sal 'n afskrif hou.

Biodun Olagbuji (Principal Researcher)

Doctoral Candidate, School of Public Health
University of Cape Town
Mobile: 0717243901
E-mail: biodun_olagbuji@yahoo.com

Signature/thumbprint of participant…… Date……..
Handtekening / duimafdruk van
deelnemer.....Datum.....
Signature of research staff…… Date……..
Handtekening van navorsingspersoneel.....Datum.....

Appendix 12: Protocol for reporting child maltreatment (abuse or neglect).

Below are steps to follow if a study participant (who is 14 years of age or older but under the age of 18 years) discloses any form of abuse (sexual, physical or emetional) or neglect to a field worker, or if a suspicion is made by a field worker:

The definition of child maltreatment (abuse and neglect) is as follows: Child maltreatment refers to all forms of physical ill-treatment, emotional maltreatment, sexual abuse or neglect resulting in actual or potential harm to the child well-being (Note to interviewers/field workers: The indicators of all forms of maltreatment are provided in Form 22 - Reporting of Abuse or Deliberate Neglect of Child).

1. Interviewer should immediately contact the lead researcher (PhD candidate).

2. Respondent/participant should be asked -by the interviewer and/or lead researcher- whether the incident was already reported to a relevant agency e.g., a child protection agency, the provincial social development department, or to a police official.

2. If the incident has not been reported or when in doubt about whether the incident was already reported, the lead researcher will immediately contact a social worker (or a referral person) at the study site upon knowing or having reason to believe that a study participant who is in 14-17 age group has experienced some form of sexual /physical abuse or neglect.

3. Completion of Form 22 (Reporting of Abuse or Deliberate Neglect of Child) and Form 23 (Reporting of Abuse or Deliberate Neglect of Child to Director General) by a social worker and an interviewer (research assistant) at study site and the lead researcher (PhD candidate) as well (see attached forms 22 and 23).

4. Written documentation of reports and submission of aforementioned forms 22 and 23 to Western Cape Department of Social Development by a social worker at study site.

5. Keeping/updating (by the lead researcher/PhD candidate) a log of reports.

Appendix 13: Template for reporting child maltreatment (abuse or neglect) or any other traumatic events to a social worker/clinic counsellor at the study site.

(Note: Both verbal and written reports will be made)

Name of study facility:……..

Name and age of the child:……..

Name and age of child who disclosed (suspected to have) traumatic event (sexual abuse, maltreatment or neglect):……

Name and address of the child's parent/legal guardian…….

Summary of abuse disclosed by the child or reasons why interviewer/field worker and lead researcher/PhD candidate suspect the child may have experiencesd abuse:……..

…….

……

…….

Approximate date and time the abuse occurred:……..

Circumstances in which psychological discomfort arising during interview became known:……..

……

……..

…….

Actions taken by field worker/lead researcher (please tick all that apply):

- ❖ Psychological support
- ❖ Verbal report to a social worker
- ❖ Contact to treatment unit
- ❖ Others (please specify)……..

Signature of Fieldworker/trained researcher……Date……..

Signature of lead researcher/PhD candidate……. Date……

Appendix 14: Psychosocial or victim referral protocol.

1. If a report of abuse or neglect is made or if the respondent discloses any traumatic event to an interviewer/a field worker or need for further counselling or assistance (and care and interventions), a fieldworker should encourage the victim to talk about the abuse or neglect without embarrassment or anxiety and report to (contact) the lead researcher/PhD candidate at the same time.

2. Immediate psychological support is to be given to a victim by a fieldworker (all field workers and the lead researcher will be trained by an adolescent psychologist to do this) and the lead researcher/PhD candidate.

3. Any suspicions or disclosures about abuse (and maltreatment) or discomfort should be reported by the field worker (The lead researtcher/PhD candidate would assist in this task) on a reporting template (see Appendix 9).

3. Where a disclosure of psychological/emotional discomfort arising during interviews on personal sensitive issues is made and, where further counselling or assistance is needed, the lead

researcher/PhD candidate would make referral to a clinic counsellor or social worker at the study site, and further referral to a child psychologist, if needed, can be made by the clinic counsellor or social worker.

4. All instances of child abuse or maltreatment should be referred in the first instance to a social worker at a study site for further counselling and referral for other sexual abuse services needed, in accordance with Western Cape provincial guidelines, at study healthcare facility (where a study site does not offer child abuse treatment, referral will be made to the nearest facility offering child abuse treatment).

Appendix 15: Key informants' in-depth interview: Demographic information and question guide

Thank you for agreeing to take part in this research study. As I have stated earlier, the purpose of this research study is to learn more about health care providers' understandings of contraception for HIV-positive adolescent girls. I would like to ask you some questions to know your views and experiences regarding contraceptive services for HIV-positive adolescent girls in your current working environment. I would like to remind you that there are no right or wrong answers to the questions. Before we start, do you have any questions for me?

Participant Study ID Number: Interview date: ……

Clinic (Tick)

Gugulethu CHC Mitchells Plain CHC Khayelitsha (Site B) CHC Nyanga CHC

Michael M. CHC Heideveld CHC Browns Farm CHC Nolungile CHC Site B Youth Clinic Site C Youth Clinic Mzamomhle Clinic Weltevreden Valley Clinic, Kuyasa Clinic

Provincial sub-district managers	**City Health sub-district managers**
Klipfontein	Klipfontein
Khayelitsha	Khayelitsha
Mitchells Plain	Mitchells Plain

Time interview started:

Time interview ended:

Informed consent obtained:

	Demographic sheet: Background information		
1	How old are you?		
2	Please tick your gender	Male Female	 1 2
3	What is your current job/status in this health care facility? (Please tick all that apply)	Doctor Clinical nurse practitioner Adherence couinsellor Clinic manager Facility manager Sub-district manager Others (please specify):	1 2 3 4 5 6 7
4	How long have you been in current job?		
5	How many years of experience do you have in HIV programme?		
6	How many years of experience do you have in contraception programme?		
7	What is your highest professional qualification?	Diploma in Nursing Bachelor/Nursing degree Doctor-Medical degree Bachelor degree	1 2 3 4

		Other- Specify	5

Question guide: Indepth interviews with key informants

(Note: Participants were provided with the summaries of their responses at various intervals during the interviews and at the end to elicit clarifications

- Socio-Demographics: [See Demographic sheet]

First, I would like to know your thoughts about contraceptive methods choice for HIV-positive adolescent young girls.

- What do you know about contraception services for the a) general adolescent girl populations, and b) HIV-positive adolescent girls? How did you get this knowledge about contraception services for the general adolescent girl populations and HIV-positive adolescent girls?

- Can you talk about what contraceptive methods are available in this facility? In your experience, which contraceptive methods are commonly used by HIV-positive adolescent girls and why? (Please speak about different groups of girls: minors/older adolescents, BHIV/PHIV adolescent girls, married/unmarried, in-school/out-of-school, working/not working). *Probe about methods they used before and after they came to the interviewee*. If they already used any methods before coming to you for contraceptive services, who recommended the methods? *Probe: friends, partner, family/parents, social media, healthcare providers, teachers etc.* What methods are commonly recommended by providers, and why?

- Do you have any ideas about how the contraceptive methods used by HIV-positive adolescent girls differ from that of HIV-negative girls, HIV-positive young adult women (20-24 years) and older HIV-positive women and why?

- What do you understand by the term dual method contraception? Do you (or any other provider) usually recommend a condom (male or female subtype) plus any other contraceptive to HIV-positive adolescent girls? Why or why not? *If yes, probe about other methods recommended and reasons (e.g. unintended pregnancy, HIV transmission via mother-to-child etc.).* How do HIV-positive adolescent girls feel about dual method use? Why do some not use dual method consistently?

I would now like to ask you about the delivery of contraception for HIV-positive adolescent girls.

- In your experience, can you please tell me what you (and/or those of other providers) think about the delivery of contraception services to HIV-positive adolescent girls? Do you think it has been successful/effective? Why or why not? Are choices offered? Why or why not? If choices are not available, what do you tell an adolescent client? *Probe: to come back again, go to another clinic, and advise to use available methods.*

- Can you talk about how service providers are doing in delivering contraception services to HIV-positive adolescent girls? How interested do you think providers in this community are in the provision of these services to HIV-positive adolescent clients? What do they think about HIV-positive adolescent girls accessing these services? *Probe about positive or negative reactions and reasons?* What have your experiences been with other providers' attitudes towards offering contraception services to HIV-positive adolescent girls? *Probe about judgemental attitudes, verbal abuse, confidentiality and privacy, respect for adolescents, and denial of contraceptive care for HIV-positive adolescent girls.*

- Can you talk about how effective/organized you think the hospital, local and/or provincial authority is/are doing in supporting the provision of these services? Please explain reasons.

- Can you tell me what you know about the current South Africa's contraception policy and service delivery guidelines (launched in 2014) as it regards HIV-positive populations, specifically women? How did you know about them? *Probe about sources of introduction-hospital, providers, seminars, training etc.* Do you have any idea about how these policy and

service delivery guidelines address the specific needs of HIV-positive adolescent girls? If yes, please explain.

- How are they interpreted and implemented for HIV positive adolescent girls in your working environment? How do they impact the delivery of contraception services for these girls? *Probe: age of the client at which providers initiate service delivery, contraceptive method choices.*

- Thinking about your involvement/experiences in contraceptive service provision to HIV-positive adolescent girls, what are the specific/particular contraceptive needs do they have? *Probe: provider's age (peer provider); gender, racial/ethnic and native language concordance; and continuity of care (with same provider); method choice; access sites (youth only or all ages clinics).* Are contraceptive services tailored to their needs and preferences? If yes, how?

- Why do they have these needs (ask about each)? Do you think their contraceptive needs differ by a) sub-group (PHIV- versus BHIV adolescent girls); b) from those of HIV-negative girls, HIV-positive young adult women (20-24 years), and older HIV-positive women? If yes, how (ask about each aforementioned population)?

- Thinking back to your involvement in HIV care service delivery (including contraception services), what would you recommend be done differently in your working environment in terms of tailoring contraception services to meet the needs of HIV-positive girls? *Probe: youth only clinics, separate clinic days, peer providers, provider's gender/age, school health services, continuity of care (same provider).*

- Can you describe to me the relationship providers have with HIV-positive adolescent girls during consultation for contraception services (i.e., interaction between providers and adolescent service users)? *Probe: respect, courtesy, friendliness, empathy, and client's privacy.* Why do you think the experiences might be bad for some HIV-positive adolescent girls?

- How well-equipped (i.e with skills and knowledge) are providers for delivering contraception services to HIV-positive girls? What methods do they have more and less experience with and why? How comfortable are providers in the provision of contraception services to these girls?

- If you (and other providers) were trained on adolescent friendly contraceptive services – can you tell me what it entails? Probe: Elements of adolescent-friendly contraceptive services: non-judgemental services, confidentiality & privacy, offering wide range of methods, services regardless of age, sex etc

- If you (and other providers) were trained on contraceptive service provision to HIV-positive adolescent girls- can you tell about the training? What did it cover? *Probe: counselling, method choice, hormonal contraceptive use, insertion and removal of implanon and IUD.* What more would you (and other providers) like to know? If you were not trained, why were you not trained and what training would you like to have?

- Can you talk a little about why and when HIV-positive girls are introduced (offered) to contraceptive services in your working environment*? Probe: circumstances, usual age, guidelines/policies.* What else informs your recommendations? How do you and/or other providers introduce a contraceptive method to them? What do you tell them (ask about during introduction and subsequent visits)? *Probe: method choice, benefits and side-effects, efficacy, how a method works, method switching and clinic policies.* How do they respond? In your experience, how are choices chosen and by who? *Probe: providers, adolescent clients, both providers and adolescent clients.*

Now I am interested in knowing about the influences on contraception for HIV-positive adolescent clients

- Based on your experience, what and who influence them in the final process of decisions about using a contraceptive method and why? *Probe: friends, partners, family, teachers, healthcare providers, social media, societal/cultural norms (ask for particular methods).*

- What do HIV-positive adolescent girls say give cause for concern about hormonal contraception (pills, injectables, and implanon) since they have been using it? *Probe: any problems; physical side effects- menstrual irregularities, weight gain, pregnancy risk, fear of subfertility, partner dissatisfaction, and excessive nausea; and safety considerations specific to HIV-populations- HIV-reinfection, disease progression and transmission to uninfected male partner and efficacy of hormonal contraception or HIV medications (ask about which hormonal contraceptive method is associated with concerns mentioned). Probe specifically about their beliefs regarding hormonal contraceptive induced amenorrhea and viral load/loss. Probe for how any side-effects impacted on their well-being. What do you and other providers say about any of these concerns they may have, and how do they respond?*

- What do providers say give cause for concern about hormonal contraception use in HIV-positive adolescent girls? (use same probes as above-Question 19). How did any of these concerns impact on their delivery of hormonal contraception for adolescent clients in HIV care?

- Based on your experience, what are the factors that promote HIV-positive adolescent girls (in this community) coming for contraception, and what factors act as barriers? Please speak about different groups of girls: minors/older adolescents, BHIV/PHIV adolescent girls, married/unmarried, in-school/out-of-school, working/not working, those who are naïve to contraception and who have stopped using). *Probe: partners, peers, family, poverty/socio-economic status (higher or low), gender role, dwelling place (e.g informal/formal settlements, shacks), working or not working, schooling/not schooling and cultural norms. How do you think any of these factors impacted on their use/non-use of contraception?*

- Can you tell me what thoughts you have about how and why HIV-positive adolescent girls discontinue contraceptive use? What about switching to another method? *Probe: any reasons, physical side effects, hormonal contraceptive-related safety considerations.*

Is there anything else you would like to tell me?

Thank you for your participation.

Appendix 16: Key informants' informed consent

Participant ID #.....Date of Interview…….

- Hello. Thank you for agreeing to this interview today. I am [INTERVIEWER: ***Biodun Olagbuji***]. Before you sign the consent form, I would like to share the information about the research with you. The purpose of this information is to help you decide whether you would like to participate in the study or not.

What you should know about the study

- A student from the University of Cape Town is requesting you to take part in a research study for his PhD degree.
- Your participation is entirely voluntary. It is your choice whether to participate or not, and if you decide to take part, you may discontinue your participation at any time without penalty to you.
- Whether you participate or not will not affect your job security.

Purpose of the research

- The purpose of this research is to better understand issues related to birth control/contraception use among young girls living with HIV.
- Ultimately, the findings of this research would help to increase our understanding of the ways to improve access to contraceptive services.

Why you are being asked to participate

- You are being invited to participate in this research study because we feel that your experience will help us to understand how policies and programs can better address HIV positive adolescent girls' contraceptive needs.

Procedures

- If you agree to participate in the research study, you will be asked to provide your thoughts and opinions about issues regarding contraception for HIV positive adolescent girls.

- The interview will take place in a comfortable place at the clinic/office or anywhere you think is suitable.
- Before we start the interview, you will fill out a brief form asking you questions around some demographic variables. The interview will be guided by me [INTERVIEWER: ***Biodun Olagbuji***].
- The interview guide will explore issues related to your understandings around knowledge, attitudes and beliefs; access to and use of contraception; existing regulations and policies; service quality; and barriers to contraceptive care among HIV positive adolescent girls.
- The information from this interview will be collected using field notes and audio-tape recorder.
- The interview will last approximately 45-60 minutes.

Risks/discomfort

- There is a risk that you may share some very personal views and confidential information by chance, and you may feel uncomfortable talking about some topics.
- You do not have to answer any question that you feel talking about them makes you uncomfortable.
- Taking part in this research will not compromise your job security in any way.

Benefits

- There will be no direct benefit to you, but your involvement is likely to assist us know more about how to improve access to and use of contraception by adolescent girls living with HIV.

Reimbursements

- You will not be reimbursed for your participation in the research study.

Protecting Data Confidentiality

- We will want you to be very comfortable and provide your honest views. Your thoughts and opinions will help to tailor contraceptive programs to the needs of adolescent girls living with HIV.
- We will not share information about you to anyone outside of the research team.
- The information that we collect from this research project will be kept private.
- Any information about you will have a number on it instead of your name
- All study documents including field notes, tapes and transcripts will be kept confidential.
- Only the researchers will have access to the study documents.
- Research documents and records will be kept in a locked file, and all electronic information will be coded and secured using a password protected file.
- At the end of data analysis, all study documents including recordings will be destroyed.
- Once we have completed the study and written the results, all study documents will be destroyed.

Do you agree to be interviewed? Yes/No

Do I have your permission to tape record this group interview: Yes/No

Do I have your permission for note taking during this interview? Yes/No

Who to contact if you have questions or problems

If you have any questions or discomforts, you can ask them now. If you have questions or discomforts later, you may contact:

Biodun Olagbuji (Principal Researcher)
Doctoral Candidate, School of Public Health
University of Cape Town
Mobile: 0717243901

E-mail: biodun_olagbuji@yahoo.com

Appendix 17: Key informants' informed consent

Participant ID #.....Date of Interview…….

- Hello. Thank you for agreeing to this interview today. I am [INTERVIEWER: ***Biodun Olagbuji***]. Before you sign the consent form, I would like to share the information about the research with you. The purpose of this information is to help you decide whether you would like to participate in the study or not.

What you should know about the study

- A student from the University of Cape Town is requesting you to take part in a research study for his PhD degree.
- Your participation is entirely voluntary. It is your choice whether to participate or not, and if you decide to take part, you may discontinue your participation at any time without penalty to you.
- Whether you participate or not will not affect your job security.

Purpose of the research

- The purpose of this research is to better understand issues related to birth control/contraception use among young girls living with HIV.
- Ultimately, the findings of this research would help to increase our understanding of the ways to improve access to contraceptive services.

Why you are being asked to participate

- You are being invited to participate in this research study because we feel that your experience will help us to understand how policies and programs can better address HIV positive adolescent girls' contraceptive needs.

Procedures

- If you agree to participate in the research study, you will be asked to provide your thoughts and opinions about issues regarding contraception for HIV positive adolescent girls.
- The interview will take place in a comfortable place at the clinic/office or anywhere you think is suitable.
- Before we start the interview, you will fill out a brief form asking you questions around some demographic variables. The interview will be guided by me [INTERVIEWER: ***Biodun Olagbuji***].
- The interview guide will explore issues related to your understandings around knowledge, attitudes and beliefs; access to and use of contraception; existing regulations and policies; service quality; and barriers to contraceptive care among HIV positive adolescent girls.
- The information from this interview will be collected using field notes and audio-tape recorder.
- The interview will last approximately 45 minutes.

Risks/discomfort

- There is a risk that you may share some very personal views and confidential information by chance, and you may feel uncomfortable talking about some topics.
- You do not have to answer any question that you feel talking about them makes you uncomfortable.
- Taking part in this research will not compromise your job security in any way.

Benefits

- There will be no direct benefit to you, but your involvement is likely to assist us know more about how to improve access to and use of contraception by adolescent girls living with HIV.

Reimbursements

- You will not be reimbursed for your participation in the research study.

Protecting Data Confidentiality

- We will want you to be very comfortable and provide your honest views. Your thoughts and opinions will help to tailor contraceptive programs to the needs of adolescent girls living with HIV.

  We will not share information about you to anyone outside of the research team.

- The information that we collect from this research project will be kept private.
- Any information about you will have a number on it instead of your name
- All study documents including field notes, tapes and transcripts will be kept confidential.
- Only the researchers will have access to the study documents.
- Research documents and records will be kept in a locked file, and all electronic information will be coded and secured using a password protected file.
- At the end of data analysis, all study documents including recordings will be destroyed.
- Once we have completed the study and written the results, all study documents will be destroyed.
- Do you agree to be interviewed? Yes/No
- Do I have your permission to tape record this group interview: Yes/No
- Do I have your permission for note taking during this interview? Yes/No

Who to contact if you have questions or problems

- If you have any questions or discomforts, you can ask them now. If you have questions or discomforts later, you may contact:

Biodun Olagbuji (Principal Researcher)
Doctoral Candidate, School of Public Health
University of Cape Town
Mobile: 0717243901
E-mail: biodun_olagbuji@yahoo.com

Signature of participant…..... Date……

Signature of research staff…… Date……..