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BARRIERS AND FACILITATORS TO UPTAKE OF LONG ACTING REVERSIBLE CONTRACEPTIVES BY WOMEN ON ANTIRETROVIRAL TREATMENT AT NEW START CENTRE IN HARARE CITY

BY

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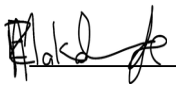
Abstract

Voluntary use of contraception by women living with HIV for prevention pregnancy is critical for upholding their reproductive rights and remains an important strategy for reducing vertical HIV transmission. However, uptake of long acting reversible contraceptives (LARCs) in developing countries remains low when longitudinally compared with developed countries. The purpose of the study was to determine the barriers and facilitators to the uptake of long acting reversible contraceptives by women of childbearing age on antiretroviral treatment at New Start Centre in Harare City between January – December 2020. A total of 190 women had used LARCs (cases) compared 96 who had used short acting reversible contraceptives (controls). Participants were selected through systematic random sampling. An interviewer-administered questionnaire was used to collect data. Factors were analysed using logistic regression in Epi Infor 7.2. Employment status [OR = 1.7, 95% CI (1.1-2.7)] and Catholic religion [OR = 1.5; 95% CI (0.9-2.7)] were the socio-demographic factors independently associated with usage of LARCs. In addition, Multigravida (≥3 pregnancies) [OR = 2.5; 95% CI (1.5-4.1)] and multiparity (≥ 3 children) [OR = 2.4, 95% CI (1.5-4)] were significantly associated with the use of long acting reversible contraceptives. Health system-related factors associated with long acting reversible contraceptives uptake included accessibility [OR = 3.4; 95% CI (1.8-6.6)] and availability of the LARCs service [OR = 2.4; 95% CI (1.4-3.9)]. Similarly, having received prior counselling on long acting reversible contraceptives [OR = 5.2; 95% CI (2.4-11.4)] and counselling from clinicians rather than peer counsellors or friends [OR = 3.5; 95% CI (2.0-5.9)] had higher odds of using LARCs. On multivariate logistic regression, only receiving prior counselling on LARCs remained statistically significantly associated with LARC usage [AOR = 3.5; 95% CI (1.0-3.9)]. Uptake of LARCs is a function of individual socio-demographic and reproductive health related factors and to an extent, health system structural factors. Due to the diverse nature of the clients on antiretroviral treatment, it is important to further investigate the uptake of long acting reversible contraceptives in different populations.

Keywords: Barriers; facilitators; contraception; long acting reversible contraceptives; antiretroviral treatment

Declaration Page

I declare that this dissertation is my original work except where sources have been cited and acknowledged. The work has never been submitted, nor will it ever be submitted to another university for the award of a degree.

Egifa Zororo Muchena _  05/01/2022 _____

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Dedication

This dissertation is dedicated to the Almighty God for everlasting grace. It is also dedicated to my family that is my husband, children and my parents without whom life and further education would have been meaningless.

List of Acronyms

AIDS:	Acquired Immune Deficiency Syndrome
ART:	Antiretroviral treatment
AUREC:	Africa University Research and Ethics Committee
AGYW:	Adolescent girls and young women
CDC:	Centers for Disease Control and Prevention
COC:	Combined Oral Contraceptive
CPR:	Contraceptive Prevalence Rate
EMR:	Electronic Medical Record
FP:	Family Planning
HIV:	Human Immunodeficiency Virus
LARCs:	Long Acting Reversible Contraceptives
MOHCC:	Ministry of Health and Child Care
NSC:	New Start Centre
PMTCT:	Prevention of Mother to Child Transmission
PSI:	Population Services International
SARCS:	Short Acting Reversible Contraceptives
SRH:	Sexual and Reproductive Health
UNAIDS:	United Nations Program on HIV/AIDS
WHO:	World Health Organization
ZNFPCIP:	Zimbabwe Family Planning Costed Implementation Plan

Definition of Key Terms

Childbearing age: Range of ages during which a woman may become pregnant (Centers for Disease Control and Prevention (CDC), 2020).

Combined oral contraceptive: Also called " the pill", Combined oral contraceptives contain the hormones oestrogen and progestin (CDC, 2020).

Contraception: Contraception is the intentional prevention of conception through the use of various devices, sexual practices, chemicals, drugs or surgical procedures (Jain & Muralidhar, 2011).

Copper bearing intrauterine device: A small flexible, plastic device, usually with copper, inserted into the womb by a qualified medical practitioner, after menstruation, abortion, or 4-6 weeks after delivery (Jain & Muralidhar, 2011).

Implants: The implant is a single, thin rod that is inserted under the skin of a women's upper arm (CDC, 2020).

Injectable: Injectable inhibit ovulation and also increases the viscosity of the cervical secretions to form a barrier for sperms (Jain & Muralidhar, 2011).

Long acting reversible contraceptive: Methods that provide very effective contraception for an extended period of time without requiring user action (WHO, 2019). The methods include Copper- bearing intrauterine device (CU-IUD), levonorgestrel- releasing device (LNG-IUD) and Subdermal contraceptive implants that is LNG and etonogestrol implants (WHO, 2019).

Progestin -only pill: Pills that contain low doses of progestin like the natural hormone progesterone in a woman; s body and are also called " minipills" (WHO/RHR, 2018).

Short- acting methods: The methods that provide effective contraception but require user action, such as regular clinic visits, remembering and correct and consistent use (WHO, 2019). The methods include injectable contraceptive, pills, contraceptive patch, condoms and spermicide.

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CHAPTER 1 INTRODUCTION

1.1 Introduction

Integration of services for sexual and reproductive health (SRH) and HIV has been widely promoted. Globally, clients and health providers benefit through improvements in quality, efficient use of resources, and lower costs, helping to maximize limited health resources and provide comprehensive client-centered care (Warren, Mayhew, & Hopkins, 2017). Preventing unplanned pregnancy is an important health and economic goal for Africa.

The voluntary use of effective contraceptives enables women and adolescent girls, including those living with HIV, to choose whether and when to have children and how many. This in turn helps to maintain their health by reducing unintended pregnancy related morbidity and mortality with planned, spaced, well-timed pregnancies, contributing to improved outcomes for both mother and child (World Health Organization [WHO], 2019). This chapter addresses the background, the research objectives, questions, hypothesis, delimitations and limitations to the study.

A study conducted in Zimbabwe revealed that women who reported that their pregnancy was unintended were more likely to be unmarried, to be in the lowest income quartile, and to report HIV- positive status (Nance et al., 2018). The same authors found out that the women with lower educational status, access to long acting reversible contraceptives at the facility in their catchment area and were also using a contraceptive method in the pre-pregnancy period (Nance et al., 2018). However, women who reported that their pregnancy was unintended were then more likely to use long acting reversible contraceptives, post-partum.

1.2 Background of the study

Voluntary use of contraception by women living with HIV who wish to prevent pregnancy is critical for upholding their reproductive rights and it continues to be an important strategy for reducing vertical HIV transmission (WHO, 2015). There were an estimated 17.8 million women aged 15 and older living with HIV in 2015, constituting 51% of all adults living with HIV worldwide (WHO, 2017). Globally, maternal mortality is unacceptably high. About 295 000 women died during and following pregnancy and childbirth in 2017 (WHO, 2019). Women die because of complications and most are preventable or treatable during and following pregnancy and childbirth.

The concerted effort of the global community continues to reduce preventable child deaths, from a mortality rate of 76 deaths per 1,000 live births in children under 5 years of age in 2000 from 42 in 2015 and to 39 in 2018 (United Nations [UN], 2020). Globally, the proportion of women whose family planning needs were met by modern contraceptive methods increased slightly: from 75.7 percent in 2010 to around 77 percent in 2015 reaching 56 percent in sub-Saharan Africa and 52 percent in Oceania (UN, 2020).

In 2002, the United Nations (UN) adopted a four-pronged approach to the prevention of mother-to child transmission of HIV (PMTCT). This approach includes primary prevention of HIV infection among women of childbearing age (prong 1), preventing unintended pregnancies among women living with HIV (prong 2), preventing HIV transmission from a woman living with HIV (prong 3), support to their children, and families (prong 4), (Hairston, Bobrow, & Pitter, 2012).

In Sub-Saharan Africa, adolescent girls and young women (aged 15-24 years) accounted for 24% of HIV infections in 2019. Women living with HIV are

disproportionately vulnerable to violence, including violations of their sexual and reproductive rights (WHO, 2017).

New Start Centre under Population Services International (PSI) based in Harare, offers integrated services, which include family planning, sexually transmitted infections screening and treatment. The other services offered at the clinic include cervical cancer screening, antiretroviral treatment and pre-exposure prophylaxis and HIV testing services. The family planning department offers long acting reversible contraceptives, which include insertion of implants and intrauterine devices. Seven nurses have been trained and certified by Zimbabwe National Family Planning Council on insertion and removal of implants and intrauterine device.

Currently, four nurses are based in the sexual reproductive health department, two at static site and two offer outreach services. The site has a variety of long acting reversible contraceptives, which include implants for three and five years. The site also offers the copper-T-bearing intrauterine device (IUCD) for ten years and the levonorgestrel intrauterine system (LNG-IUS) lasting for five years. The site is well resourced with sterilized packs and surgical sundries. Group education sessions on FP including LARCs are given to clients; IEC material of FP are available for the clients. The charts on each long-term method are also displayed in all family planning rooms and models are available for use during family planning counselling rooms. Despite all the above mentioned, uptake of LARCs remains low hence the need to determine barriers and facilitators of uptake of LARCs among women of child bearing age who are on antiretroviral treatment at New Start Centre.

1.2 Statement of the problem

The use of long acting reversible contraceptives methods by women on antiretroviral therapy is low in developing countries. Despite the advantages of LARCs method,

the uptake at New Start Centre of long acting reversible contraceptives by women on ART is low. The monthly family planning report for January 2020 to December 2020 showed that a total of 999 women on ART accessed contraception methods. Of these women, 651 (65.2%) opted for injectable (depo provera), and 132 (13.2 %) opted for contraceptive pills which are both short acting methods.

Table 1:1 Distribution of clients' family planning methods at New Start Centre in Harare, 2020

Family Planning Method	**Number of clients**	**Percentage**
Contraceptive pills	132	13.2
Injectable	651	65.2
Long acting reversible contraceptives	216	21.6
Total	999	100

Source: PSI Zimbabwe 2020

The statistics indicate that few women on ART use long acting reversible contraceptives, consequently most of these women frequently become pregnant which may expose them to health risks. Women who have fewer risky births, healthier pregnancies and safer deliveries have lower risks of deaths (ZNFPC, 2019). Hence, it was necessary to determine the barriers and facilitators for the uptake of long acting reversible contraceptives by women of the childbearing age who are on antiretroviral therapy.

1.4 Broad objective

To determine the barriers and facilitators to uptake of long acting reversible contraceptives by women of childbearing age on antiretroviral treatment at New Start Centre in Harare from January 2020 to December 2020.

1.4.1 Specific objectives

1) To determine the socio-demographic characteristics associated with the uptake of long acting reversible contraceptives by women of childbearing age on antiretroviral treatment at New Start Centre, Harare from January 2020 to December 2020.
2) To establish the reproductive health related characteristics associated with uptake of long acting reversible contraceptives by women of childbearing age on antiretroviral treatment at New Start Centre, Harare from January 2020 to December 2020.
3) To determine the health system- related factors associated with the uptake of long acting reversible contraceptives by women of childbearing age on antiretroviral treatment at New Start Centre, Harare from January 2020 to December 2020.

1.5 Research questions

1) What are the socio-demographic characteristics associated with the uptake of long acting reversible contraceptives by women of childbearing age on antiretroviral treatment at New Start Centre, Harare from January 2020 to December 2020?
2) What are the reproductive health related characteristics associated with uptake of long acting reversible contraceptives by women of childbearing age on

antiretroviral treatment at New Start Centre, Harare from January 2020 to December 2020?

3) What are the health system- related factors associated with the uptake of long acting reversible contraceptives by women of childbearing age on antiretroviral treatment at New Start Centre, Harare from January 2020 to December 2020?

1.6 Hypothesis

There is an association between barriers/facilitators and uptake of long acting reversible contraceptives by women of childbearing age on antiretroviral treatment.

Null hypothesis

There is no association between barriers/facilitators and uptake of long acting reversible contraceptives by women of childbearing age on antiretroviral treatment.

1.7 Significance of the study

Information on contraceptive use by women on ART at New Start Centre, Harare, has not been investigated before. The study would enable the researcher to identify the factors that either facilitate or hinder women of childbearing age on ART to use long acting reversible contraceptives at New Start Centre. The study findings would equip the health care providers with appropriate information to enable them offer effective family planning counselling and educational sessions, which, would promote the uptake of long acting reversible contraceptives by women on ART. The findings would also influence the planning and implementation of Population Services International programs that would enhance the uptake of long acting reversible contraceptives by women on ART and reference for further studies as well.

1.8 Delimitations of the study

The study was conducted at one clinic that is New Start Centre clinic in Harare and did not cover all women of the childbearing age. This might not be a true representation of women of childbearing age on ART, and yet the results would be generalized. The research specifically focused on women on antiretroviral therapy who were aged between 18 and 49 years who are most vulnerable to violations of sexual reproductive health. Improper selection of control individuals might have introduced selection bias in the results. The investigator developed the study instrument and used it for the first time. The instrument might not have collected detailed and accurate data, which might have distorted the study results despite being pretested for validity and reliability.

1.9 Limitations of the study

Anticipated limitations of the study include Covid-19 restriction measures currently in place, which might have had an effect on sample size because of restriction in movement. The duration of conducting the study was limited and controlled by the University calendar and was not long enough to do a study in a wider population and the student has to conduct the study within the stipulated period. Therefore, the data collected was not be detailed and adequate which might have distorted the study results.

1.10 Summary of the chapter

This chapter addressed the background of the study, the problem statement and the research objectives and questions. The chapter also highlighted the hypothesis, delimitations, limitations and the significance of the study. The next chapter will

review the literature from various authors, which will enable the researcher to identify the gaps that have been omitted before.

CHAPTER 2 REVIEW OF LITERATURE

2.1 Introduction

A literature review is a surveys scholarly articles, books and other sources relevant to a particular issue, area of research, or theory, and by so doing, providing a description, summary, and critical evaluation of these works (Ramdhani, Ramdhani, & Amin, 2014). This chapter presents literature review related to socio-demographic characteristics, reproductive health related characteristics and health system- related factors regarding uptake of long acting reversible contraceptives by women of childbearing age on antiretroviral treatment. The Health Belief Model in relation to this study will be reviewed.

2.2 Global trend in contraception

Unmet need for contraception results in unintended pregnancies, unwanted births and unsafe abortions (Silumbwe et al., 2018). In many countries, women living with HIV do not have equitable access to good quality health services and are also faced with multiple and intersecting forms of stigma and discrimination (WHO, 2017). To improve access to family planning, the World Health Organization recommends the integration of family planning services into HIV care settings (International AIDS Society [IAS], 2020). Differentiated service delivery (DSD) is a client centered approach that simplifies and adapts HIV services across the cascade in ways that both serve the needs of people living with HIV and reduce unnecessary burdens on the health systems (IAS, 2020).

The differentiated service delivery according to WHO should ensure that the range of contraceptive methods available should include LARCs (implants and intrauterine devices), (IAS, 2020). Sustainable Development Goal Number 3 aims to increase

health and promotes well-being for all ages (UN, 2020). To achieve the sustainable development goals (SDGs) by 2030 and fulfill the commitment to leave no one behind, the health sector must work to eliminate barriers faced by women living with HIV (WHO, 2017). Women living with asymptomatic or mild HIV clinical disease can use hormonal contraceptive methods and intrauterine device, without restriction (WHO, 2015).

2.2.1 Long term contraception view in Africa

Sub-Saharan Africa (SSA) has the highest number of women who have unmet need for contraception (Wado, Tilahun, Gatura, Doughman, & Izugbara, 2018). The highest unmet need was found to be in Uganda, Tanzania and lowest in Kenya and Rwanda. The key findings in East Africa on method related concerns included fear of side effects and health risks (Wado et al., 2018). Despite most unintended pregnancy rates, very few Malawian women use intrauterine contraception or the subdermal implants (Mwafulirwa et al., 2016). These authors found out that half of the providers were not trained to insert the LARCs and lack of sterilized equipment was a barrier.

2.2.2 Long term contraception view in Zimbabwe

In Zimbabwe the use of modern family planning rose steadily Post-Independence but progress stagnated in recent years (MOHCC, 2015). The Zimbabwe National Family Planning Strategy (ZNFPS) focus is currently on people living with HIV/AIDS as availability of integrated family planning services to HIV positive women is reported to be poor (MOHCC, 2015). The knowledge of long acting and permanent methods is also low in Zimbabwe. Only two thirds of women and one

third of men know about implants, with 61% of the women and 44% of men knowing about intra-uterine contraceptive devices (MOHCC, 2015).

Integrated outreach family services are currently focusing on utilization of existing resources on community mobilization and clarification of myths and misconceptions pertaining to use of family planning. A recent Funding Gap Analysis estimated that the total cost of delivering family planning services in Zimbabwe as of 2014 was $9.9 million, which is short of $1.2 million (MOHCC, 2015). Efforts to build an integrated Medical Supply Chain Management system, covering medicines, medical commodities, and contraceptives by government is currently being piloted in Manicaland Province (MOHCC, 2015). If successful, this may pave way for self-reliance on FP commodities.

The Zimbabwe National Family Planning Strategy (ZNFPS) includes seeking for financial support from key donors and development partners to operations of the family planning (FP) programme. It also involves the strengthening of the supply chain management and security of all FP commodities. In April 2014, MOHCC piloted the new Zimbabwe Assisted Pull System (ZAPS), consolidating Delivery Team Topping Up (DTTU) as commodity distribution systems (MOHCC, 2016). The other strategy is to improve availability and access to quality integrated FP services by expansion of Public Private Partnerships Organizations.

The organizations currently involved in offering LARCs services in the country include, Zimbabwe National Family Planning Council (ZNFPC), Population Services Zimbabwe (PSZ), Population Services International Zimbabwe (PSI Zimbabwe), Family Health International (FHI 360), and most public health institutions. Zimbabwe ranks high among sub-Saharan African countries regarding use of in modern contraceptives. However, current contraceptives use in Zimbabwe reflects

low uptake of LARCs, a high unmet need among young and unmarried sexually active women (MOHCC, 2016).

The other strategy needs strengthening of information, education and communication through standardized cultural sensitive messaging for FP. There is low interpersonal communication on family planning by health workers' in the country due to lack of national family planning advocacy. Moreover, guidelines for integrating SRH and HIV services were developed in Zimbabwe in 2014 for use by health workers.

Managers and service provider training which comprised of midwives and general nurses commenced in 2015 in Harare, Bulawayo and training needs to be rolled out to reach saturation levels nationwide (MOHCC, 2016). The 2014 situational analysis conducted among a combination of hospitals, clinics, centers in both public and private sectors in Zimbabwe. The findings showed that 53 percent of the facilities in an observed skewed method mix included inadequately equipped facilities and lack of skilled personnel to offer long-acting methods, as well as lack of functional theatres (MOHCC, 2016).

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Zimbabwe is globally acknowledged as one of the family planning successes in Africa (MOHCC, 2016). The Government of Zimbabwe committed itself to the full financing and implementation of the Zimbabwe Family Planning Costed Implementation Plan (ZNFPCIP) 2016-2020. The goals include reducing unmet need for family planning to 6.5%, increasing the modern contraceptive prevalence rate (CPR) to 68%, and improving the quality of family planning services by 2020 (MOHCC, 2016).

2.3 Theoretical framework

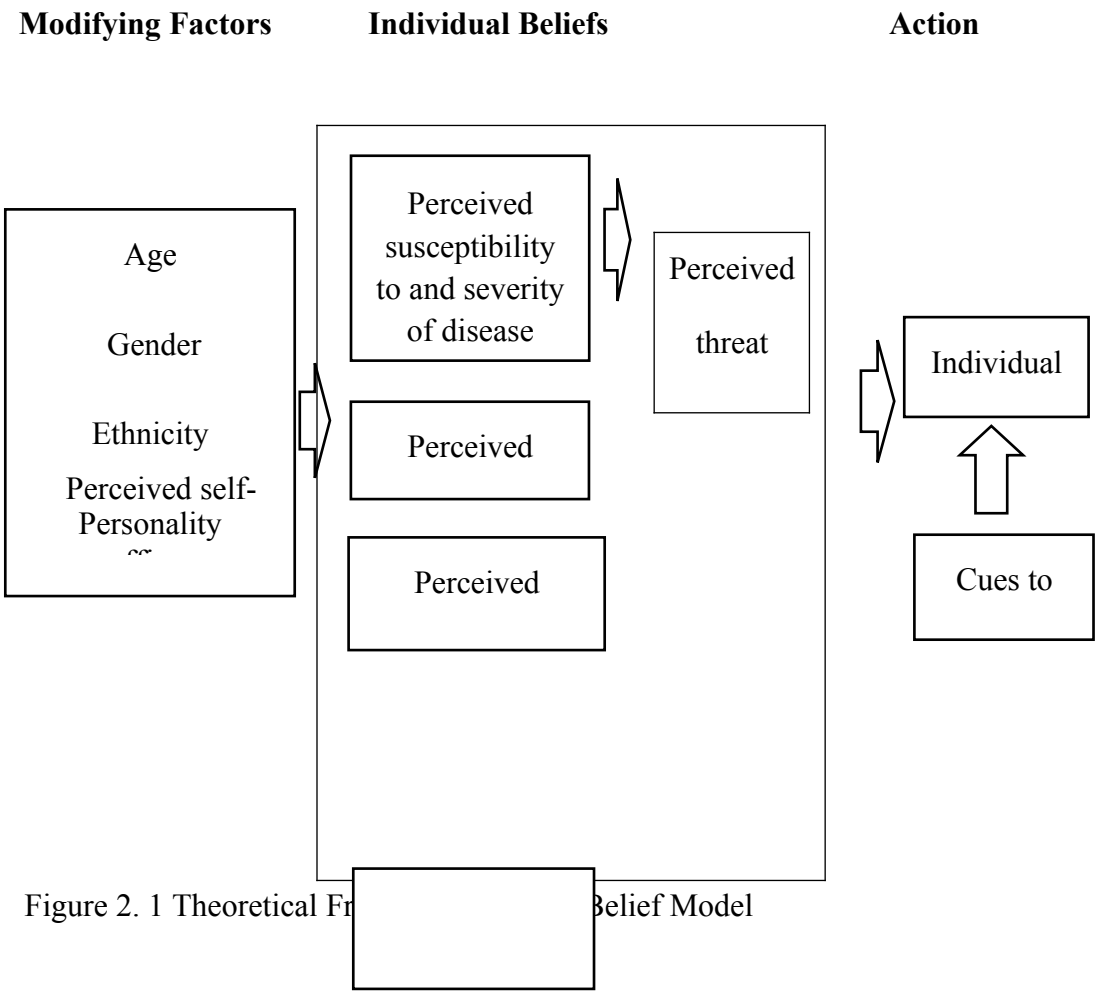

Figure 2. 1 Theoretical Fr Belief Model

Source: The Health Belief Model, Karen Glanz and Rimer, 2008

The Health Belief Model will be used to guide this study. The figure 2.1 summarizes the Health Belief Model (HBM). The model has demonstrated to have application in

the areas of preventive behavior and compliance with medical regimens, is offered as potentially useful conceptual framework for family planning research (Katatsky, 1977). The HBM is a humanistic theory with the following three major components:

- The individual's perceptions about health.
- The modifying factors which include demographic, socio-psychological and structural variables, attitudinal, interaction ad enabling factors which are either socio-behavioral variables themselves, or which affect socio-behavioral dimensions (Becker, 1974).
- The benefits of taking preventive measures.

The model found that it could be applied to a range of health behaviors and provided a framework for shaping behavior patterns relevant to public health as well as training health care professionals to work from their patients' subjective perceptions of illness and treatment (Abraham & Sheeran, 2015).

2.4 Relevance of theoretical framework to the study

The Health Belief Model (HBM) consists of constructs which are perceived susceptibility, perceived threat, perceived severity, perceived benefits and perceived barriers to action (Abraham & Sheeran, 2015). Perceived seriousness pertains to an individual's belief about the severity of a disease. The greater the perceived risk, the greater the likelihood of engaging in behaviours to decrease the risk. Perceived threat (susceptibility and seriousness) of a unwanted pregnancy provides the incentive to use contraception (Hall, 2012).

In the study, concerning facilitators and barriers to uptake of LARCs, fear of unintended pregnancy, abortion or fear of losing a job due to increased responsibility are perceived threats that may influence the women on ART. The other factor that impact likelihood of contraceptive utilization also include fear of complications

related to the pregnancy when one is on antiretroviral therapy. In this study, the HBM predicts that for a woman of childbearing age on antiretroviral treatment to use LARCs, she has to perceive herself to be susceptible to risks associated with pregnancy.

Perceived benefit is a person's opinion of the value or usefulness of a new behavior in decreasing the risk of developing a disease. Perceived benefits in the study relate to the perceived effectiveness, feasibility and other advantages of using LARCs to prevent pregnancy (Hall, 2012).

Perceived barriers relate an individual's own evaluation of the obstacles in the way of him or her adopting a new behavior. Perceived barriers are negative consequences of using contraception (Hall, 2012). In this study, factors such as perceived side effects of hormonal contraception for instance weight gain, irregular menses in women of childbearing age may prevent the women on ART from using LARCs.

Modifying factors are individual characteristics that influence personal perceptions. Modifying factors include knowledge and sociodemographic factors that may influence health perceptions (Karen Glanz & Rimer, 2008). In this study, the modifying factors include age, level of education, parity and knowledge of women on ART regarding LARCs. The age of women was found to be one of the determinants of long acting contraceptive method utilization among HIV positive women (Yirsaw, Meskel, Michael & Shitemaw, 2020). The number of children she has, level of education attained to enhance understanding; marital status and knowledge of LARCs influence the women on ART to decide to use LARCs (Kebede et al., 2020).

Cues to action are events, people or things that move people to change their behavior. They are internal and external stimuli that trigger a consciousness of

perceived pregnancy threat and facilitate consideration of using contraception to remedy the threat (Hall, 2012). In this study, the cues to action are group information sessions delivered on LARC methods to women in general including women on LARCs during reviews at the clinic, or from other family planning users and during awareness campaigns conducted in the community.

2.5 Sociodemographic characteristics related to uptake of long acting reversible contraceptives

Most studies have been conducted on long acting reversible contraceptives. The most common reasons for uptake of LARCs among women on antiretroviral treatment include sociodemographic characteristics. A study conducted in Southern Ethiopia, Silti District, revealed that women who attended college and above level of education were 4.4 times more likely to use LARC as compared to those with no education (Kebede et al., 2020). The authors noted that the reason was that educated women are more aware of benefits of contraception methods and have better motivation to visit a health facility as well as acquire service as compared to the uneducated ones.

A study conducted in Kakamega County, Kenya also shared the same sentiments, women who had tertiary education were more likely to utilize LARC compared to those with primary level or none (Ontiri et al, 2019). Women in age group 39 years and above, who had no future fertility intention were found to be determinants of long acting contraceptive method utilization among HIV positive women (Yirsaw et al., 2020).

The other determinant of long acting contraceptive method utilization was being divorced/, separated and being widowed. Clients with the highest income level were found to use LARCs more often than those who earn less (Gashaye et al., 2020). In Bangladesh, the most preferred contraception among married women aged 10-49

years has been the pill, followed by injectable, traditional methods, tubal ligation and condoms (Bates et al, 2019). Religion of women had an impact on uptake of LARCs. A study in Kenya revealed that Protestant women were less likely to use LARC compared to Catholics (Ontiri et al., 2019).

2.6 Reproductive health factors related to uptake of long acting reversible contraceptives

In Kakamega County in Kenya, the strongest predictor of LARC uptake was the desire to have fewer children. This increased the likelihood of utilization by almost four times compared to women who desired a child in two years (Ontiri et al., 2019). Furthermore, women who wanted children after two years were also significant and likely to use LARC methods compared to those who wanted a child in two years. This is because LARC methods are highly effective as well as reversible.

In Southern District of Ethiopia, women who had no future fertility intention were seven times more likely to use long acting contraceptive than those women who had fertility intention (Yirsaw et al., 2020). The study further identified that two third of the cases were using the current long acting contraceptive for 1 year to 3 years. Nearly a third of the cases and close to half of the respondents got pregnant after becoming HIV positive (Yirsaw et al., 2020). Another study in Northwest Ethiopia found out that women who wanted to limit their births were 2,4 times more likely to use LARCs than those who reported that they wanted to have a child soon (Gashaye et al., 2020).

2.7 Health related factors related to uptake of long acting reversible contraceptives

Health system challenges also have an impact in terms of LARC use. Staff shortages, inadequate skills, inadequate counselling and inadequate infrastructure where cited by health care providers as main barriers to provision of LARC methods (Ontiri et al., 2019). A study conducted in Malawi cited lack of resources, such as equipment for sterilization, and frequent stock-outs of methods in many clinics (Mwafulirwa et al., 2016). The same authors on provider experience identified that over 50% of the providers were trained to insert implants and nearly all health care providers were interested in receiving LARC insertion training (Mwafulirwa et al., 2016).

Health systems barriers may include long distances to healthcare facilities, stock – outs of preferred methods, lack of policies facilitating contraceptive provision in schools , and undesirable provider attitudes (Silumbwe et al., 2018). The main barrier to most acceptors is the prospect of whether they will experience insertional and subsequent pain, bleeding and discomfort with their intrauterine device (Goldstuck, 2014).

A study conducted in Kabwe district in 2018 in Zambia, revealed that attitudes by healthcare provider especially on marginalized groups, like the unmarried and adolescent users, acted as barrier to services utilization. The healthcare providers reported that negative attitudes such as blocking clients to explain their experiences regarding side effects was common in some health facilities (Silumbwe et al., 2018). Attitude alone, however, may be limiting in its ability to predict health behavior, thus, exploring additional factors influencing contraceptive choice and intention to use LARCs may increase uptake and contribute to a decrease in unintended pregnancies (DeMaria et al., 2019).

2.8 Summary of the chapter

This chapter outlined the theoretical framework that will guide the study. Literature on sociodemographic, reproductive health characteristics, and health system factors in relation to uptake of long acting reversible contraceptives was highlighted. The next chapter describes the methodology of the study.

CHAPTER 3 METHODOLOGY

3.1 Introduction

This chapter describes the study design, setting, population, the sample size, sampling procedure, instruments, and methods of data collection. The researcher narrates how data analysis was done as well as ethical considerations.

3.2 Research design and its appropriateness

The study design was a case control design. It was conducted on women of childbearing age on ART at New Start Centre in Harare. A case- control study design is a type of observational study and participants are selected for the study based on their outcome status (Setia, 2016). Some participants have the outcome of interest (referred to as the cases), whereas others do not have the outcome of interest (referred to as controls) (Setia, 2016). Exposure is however assessed in both groups. The interviewer employed a case control study because it has the power to identify independent risk factors strongly associated with the specific outcome of interest; which, in this study is on long acting reversible contraceptives use (Gashaye et al., 2020). In this study, LARCs users were the cases while those using short acting contraceptives were the controls.

3.3 Study setting and rationale for selection

The study was conducted at New Start Centre in Harare. The research setting is the physical location in which data collection will take place. New Start Centre offers integrated services which include HIV testing services, sexual reproductive health (SRH) services such as family planning and cervical cancer screening and antiretroviral treatment to various population.

3.4 Study Population

The study population were women of childbearing age 18-49 years who were on ART at New Start Centre in Harare.

3.5 Sample size

The sample size was determined by considering other studies using the double population proportion approach with Epi Info version 7 statistical software package with the assumption of 95% confidence level ($Z\alpha/2 = 1.96$), 80% power. Case to control ratio of 1:2 was used and the sample size was calculated by taking different factors from two different studies done (Yirsaw et al., 2020). Based on a study conducted in Arba Minch General hospital, Southern Ethiopia the sample size was 272 (91 cases and 181 Controls), (Yirsaw et al., 2020). Considering 5% non-response rate, the final sample size was 286 (96 cases and 190 controls).

3.5.1 Sampling procedure

Systematic random sampling method was be used to select participants who visited the health institution during the data collection period. The list of all women of reproductive age at New Africa House on ART was extracted from the Bahmni electronic medical record (EMR) system and an excel sheet generated provided the sampling frame. Every third client was selected to participate in the study. Response rate was 100%, that is, all the 286 participants were successfully interviewed.

3.6 Inclusion and exclusion criteria

3.6.1 Inclusion criteria

Women of the childbearing age, who were on ART, aged 18 and 49 years were included in the study.

3.6.2 Exclusion criteria

Women of the childbearing age who were on ART but below 18 years old, were excluded from the study because ethically they were not yet capable to give an informed consent instead, an assent would be needed. Women aged 18 and 49 years who were not on ART were excluded from the study.

3.7 Data collection instruments

An interviewer-administered questionnaire with three sections addressing sociodemographic information, reproductive and health system related factors was used. The questionnaire had both open ended and closed questions. The questionnaire was translated from English to Shona language to enhance understanding of the questions by the participants.

3.8 Variables

3.8.1 Dependent variable

The primary outcome of choice in the study was long-acting reversible contraceptive uptake. Women using LARCs that is the IUCD, LNG-IUS and implants were categorized as LARCs user coded as 1. Women using short acting reversible contraceptives such as the pill, injectable were categorized as nonuse of LARCs and coded as 0.

3.8.2 Independent variables

The investigator used several variables to identify barriers and facilitators to uptake of LARCs at New Start Centre in Harare. The independent variables were socio-demographic factors such as age, marital status, client's level of education, occupation. In addition, religion was included due to variation in guidance on family

planning approaches across religions. Furthermore, reproductive health factors such as parity, gravida, future fertility intentions and current modern of contraception being used by the participant were also independent variables. Health system related factors for instance availability of the contraception, counselling on LARCs, quality of service were also assessed.

3.9 Pretesting of instruments

Pretesting of data collection tools involves simulating the formal data collection process on a small scale to identify practical problems with regard to data collection instruments, sessions, and methodology (Hurst et al., 2015). Pretesting provides an opportunity to make revisions to study materials and data collection procedures to ensure appropriate questions are being asked (Hurst et al., 2015). The pretest of the interviewer- administered questionnaire was conducted on women of the childbearing age who were on ART at New Start Centre in Harare but outside the study sample. Pretesting was done by the investigator.

The questionnaire was found easy to comprehend by the participants. Some questions which were ambiguous were deleted and the corrected version of the questionnaire was then used to collect data. Validity is defined as the extent to which a concept is accurately measured in a quantitative study (Heale & Twycross, 2015). Reliability or the accuracy of an instrument is the extent to which a research instrument consistently has the same results if it is used in the same situation on repeated occasions (Heale & Twycross, 2015). The investigator randomly selected ten women on antiretroviral treatment to ascertain the reliability and validity of the study.

3.10 Data collection procedure

Women on ART aged 18 and 49 years of age were eligible for the study. The investigator liaised with the ART clinicians to refer the clients to her whenever they visited the clinic for their routine checks. Once the study detailed were explained and the participant opted into the study, informed consent was obtained from the study participants. The interview was conducted in a private room and each interview took about 20 to 30 minutes. The data were collected during working days (Monday to Saturday) from 0900 hours to 1300 hours during the month of July 2021. Completed questionnaires were kept in a locked cupboard to ensure safety. COVID-19 protocols were observed, the participants and the researcher were correctly wearing face masks covering the mouth and nose. Social distancing was maintained and hands were regularly sanitized with alcohol-based solutions.

3.11 Analysis and organization of data

Each participant was accorded a study number for anonymity. Data from the questionnaires was entered into a password-protected excel sheet. The excel sheet was exported into Epi info for analysis. Analysis was done using Epi Info statistical package version 7 to generate frequencies, standard deviations, and means of variables.

The analysis started with descriptive analysis to present the characteristics study sample of the women. Analysis also examined the association between the independent and dependable variable. The investigator determined the factors associated with uptake of LARCs using multivariate logistic regression analysis. The Odds Ratio (OR) with 95% confidence interval (CI) were calculated to determine strength of association. The results were presented using figures and tables followed by narratives. A statistician was consulted for assistance.

3.12 Dissemination of data

On completion of the study, the results will be disseminated to the following:

- Department of Health at Africa University in the form of soft copies.
- PSI Zimbabwe Management and New Start Centre, Harare in the form of soft copies.
- Women seeking Family Planning services at New Start Centre in Harare at a health education session meeting.
- The research outcome will be published in an accredited peer reviewed journal.

3.13 Ethical considerations

Authorization to carry out the study was obtained from PSI Zimbabwe Management for the use of the population and data for the study. Approval to conduct the study was sought and obtained from the Africa University Research Ethics Committee (AUREC). The purpose and benefits of the study were explained to the participants who signed an informed consent form if they opted in. Privacy and confidentiality were maintained throughout the research.

The questionnaires used participant numbers and no names of the participants' were written on the forms to ensure anonymity. Participation in the study was voluntary without coercion or threats. The participants were assured that they were free to withdraw from the study any time they wished without any victimization. A language of choice was used for the benefit of the participants. All collected data were kept in a locked cupboard.

3.13 Summary of the chapter

This chapter outlined the methodology that was utilized in the study. The research design, study setting, population, sample ad sampling size was highlighted. The data collection instruments, and data collection procedure were discussed. Analysis, organization of data and ethical considerations were described in the chapter.

CHAPTER 4 DATA PRESENTATION, ANALYSIS AND INTERPRETATION

4.1 Introduction

In this chapter, the investigator presents the study findings, the results of the analysis done on the findings and attaches meaning to the results in the interpretation section. First, the descriptive statistics are presented to describe the sample using socio-demographic characteristics. The relationship between various socio-demographic variables, reproductive health and health system related factors with uptake of LARCs is presented also in this chapter.

4.2 Data presentation and analysis

4.2.1 Description of participants

Two hundred and eighty-six study participants (96 cases and 190 controls) participated in the study. All the participants were in the ART programme at the PSI Zimbabwe New Africa House clinic. Table 4.1 below show the demographic characteristics of all the study participants.

The ages of both controls and cases ranged from 18 to 49 years with a median age of 30. For both controls and cases, most of the participants were in the 25-29-year age category followed by the 35-39 age group. Half (50%) of the study participants were between the age 26 and 36 years (IQR). Trends on marital status followed similar trends for both groups with 33.3% and 32.6% cases and controls respectively reporting that they were married while the rest were either divorced, separated or widowed . LARCs ($\chi^2 = 1.6$, $p = 0.199$). A quarter of the cases and 24.7% controls were single.

Table 4.1: Socio-demographic characteristics of participants

	Cases (N= 96) Freq (%)	**Controls (N= 190) Freq (%)**	**Chi-square**	**P-value**
Age group			5.4	0.478
<20	2 (2.1)	8 (4.2)		
20-24	8 (8.3)	30 (15.8)		
25-29	31 (32.3)	51 (26.8)		
30-34	19 (19.8)	35 (18.4)		
35-39	26 (27.1)	43 (22.6)		
40-44	7 (7.3)	19 (10.0)		
45-49	3 (3.1)	4 (2.1)		
Marital status			1.6	0.199
Cohabiting	3 (3.1)	10 (5.3)		
Divorced	20 (20.8)	42 (22.1)		
Married	32 (33.3)	62 (32.6)		
Separated	13 (13.5)	23 (12.1)		
Single	24 (25.0)	47 (24.7)		
Widowed	4 (4.2)	6 (3.2)		
Education level			1.2	0.905
Primary	10 (10.4)	29 (15.3)		
Secondary	66 (68.8)	133 (70.0)		
Tertiary	17 (17.7)	18 (9.5)		

Never	3 (3.1)	10 (5.3)		
Employment status			3.5	0.063
General Worker	27 (28.1)	50 (26.3)		
Housewife	14 (14.6)	25 (13.2)		
Other	13 (13.5)	43 (22.6)		
Professional	13 (13.5)	15 (8.4)		
Self employed	5 (5.2)	1 (0.5)		
Unemployed	24 (25.0)	56 (29.5)		
Religion			3.7	0.054
Apostolic	8 (8.3)	26 (13.7)		
Catholics	28 (29.2)	40 (21.2)		
Pentecostal	44 (45.8)	81 (42.6)		
Traditional	4 (4.2)	11 (5.8)		
Others	12 (12.5)	32 (16.8)		

Both cases and controls groups showed encouraging responses on education. Those with secondary education for cases were 68.8% and controls 70%. Women who attained tertiary education were 17.7% cases and 9.5% controls respectively. A paltry 3.1% and 5.3% respectively reported that they never had any form of education while primary level reported 10.4% and 15.3 controls. More women who did not use LARCs were unemployed compared to those who used LARCs ($\mathbf{X}^2 = 3.5$, $p = 0.063$). Unemployed women constituted 29.5% of controls and 25% of the cases. Those employed as general workers were 28.1% cases and 26.3% controls while self

employed were 5.2% cases and 0.5% controls. Professionally employed represented 13.5% of cases while only 8.4% of controls were professionally employed.

When it comes to religion, Pentecostal denominations were the most reported religion at 45.8% cases and 42.6% controls, overall followed by Catholic at 29.2% cases and 21.2% controls. Other religions constituted 12.5% controls and 16.8% controls. Those Apostolic were 8.3% cases and 13.7% controls. The least common forms of religion were traditional 4.2% cases and 5.8% controls ($\mathbf{X}^2$ = 3.7, p = 0.054). How all these socio-demographic characteristics impacted on the uptake of LARCs by women of child-bearing age who are on ART at the New Start Centre at New Africa House is dealt with in the next subsection.

4.2.2 Effect of Socio-demographic factors on uptake of LARCs

The socio-demographic factors measured against uptake of LARCs included age, marital status, educational level, employment status and religion. Table 4.2 below shows the statistical outputs on socio-demographic factors of LARC uptake. There was not much difference in the uptake of LARCs by women in the 20-24, 25-29, 30-34, 35-39 and 40-44 age bands.

Table 4.2: Statistical outputs for socio-demographic factors of LARC uptake

Variable	OR	95% CI	p-value 1	AOR	95% CI	p-value 2
Age (20-24/<20)	1.1	0.2-6.0	0.942			
(25-29/<20)	2.4	0.5-12.2	0.280			
(30-34/<20)	2.2	0.4-11.3	0.356			
(35-39/<20)	2.4	0.5-12.3	0.287			
(40-44/<20)	1.5	0.3-8.7	0.669			
(45-49/<20)	3	0.3-25.9	0.318			
Marital Status						

Single	1					
Married	0.9	0.6-1.6	0.813			
Divorced/ Separated	1.007	0.6-1.7	0.978			
Widowed	1.3	0.4-4.8	0.662			
Education Never	1	-				
Primary/ Secondary	0.6	0.3-1.2	0.151			
Tertiary	1.6	0.8-3.3	0.151			
Religion None	1					
Catholic	1.5	0.9-2.7	0.055	1.6	0.9-2.8	0.102
Apostolic/ Other	0.6	0.3-1.01	0.129			
Pentecostal	1.1	0.7-1.9	0.606			
Employment						
Unemployed	1					
Self employed	1.4	0.8-2.4	0.216			
Housewife/ General worker	0.6	0.4-0.9	0.179			
Professional	1.7	0.8-3.7	0.048	1.5	0.9-2.6	0.091

Women of child-bearing age who were in the 45-49-year age range were 3 times more likely to take LARCs but age in general was not found statistically significantly associated with LARC uptake (OR 1.01, p-value 0.424). Women who did not take up LARCs 15.3% had primary education while only 10.4% represented the cases. There was no difference in uptake of LARCs among those who reported secondary education with 68.8% and 70% cases and controls respectively. Those who attained

tertiary level education were more likely to take up LARCs 17.7% compared to 9.5% for controls. On bivariate logistic regression, when education was coded as dichotomous variable with no education and primary education coded 0 while secondary and tertiary coded 1, there was no significant association between education and LARC uptake (OR 1.6, p-value 0.151).

Employment status was also dichotomized as follows; unemployed/housewife/other were coded 0 while professional/self-employed/general worker coded 1. Bivariate logistic regression showed that employment status was significantly associated with uptake of LARCs with those in the employed category more than 60% more likely to take up LARCs than those in the unemployed category (OR 1.7, p-value 0.048). After multivariate logistic regression, employment status remained slightly significantly associated with LARC uptake (AOR 1.5, p-value 0.091).

Marital status was not found to be significantly associated with LARC uptake. Married or cohabiting women were equally likely to take up or decline LARCs with those widowed, divorced or separated (OR 1.03, p-value 0.905). Even looking at it crudely, across all the categories of marital status, the proportions accepting or reject LARCs were almost similar Religion was independently associated with LARC uptake with those in the Catholic (OR 1.5, p-value 0.055) and Pentecostal denominations (OR 1.1, p-value 0.606) were more than 70% likely to be using LARCs than the apostolic, traditional and other religion. This was however not the case after controlling for confounding as religion was not significantly associated with LARC uptake (AOR 1.6, p-value 0.102).

4.2.3 Reproductive health-related factors of LARC uptake

Several factors come into play when one decides what type of contraceptive method to use, from a reproductive health point of view. Such factors assessed in this study

included number of pregnancies ever had, number of children if any, previously used family planning methods and any future fertility intentions. These contribute to LARC uptake in different ways.

Women of child-bearing age who had had three or more pregnancies were 50% more than twice likely to take LARCs than those on short acting methods 27.3%. Those with one to two pregnancies were 44.8% cases and 63.4% controls. Women who had never been pregnant were 5.2% cases and 6% controls. On abortion history, 75% were cases and 82% controls. Those without abortion were 25% cases and 18% controls.

On future fertility intentions those who wanted to limit were the predominant on cases 41.7% and 36.3% on controls. Those planning to have a child soon were 10.4% cases and 13.2 % controls.On history of previous use of LARCS, 38.5% were cases and 33.2% controls. Those with no previous history of LARC use were 28.1% cases and 66.8% controls. Among those on LARCs those who opted for implants were 65.6%, IUCD 29.2% and LNG about 5%. The ones who opted for SARCs, mainly opted for the injectable (depo) 51.6% and pills 48.4% respectively. Table 4.3 below shows the frequencies and percentages of the above-mentioned health-related factors of LARC uptake.

Table 2.3: Frequency table for reproductive health factors of LARC uptake

Variable	**Category**	**Cases** (Freq (%))	**Controls** (Freq (%))
Participant has children			
	Yes	90 (93.7)	170 (89.5)
	No	6 (6.3)	20 (10.5)

Number of children			
	1–2	44 (47.8)	119 (70)
	3–4	46 (52.2)	46 (27)
	5 and above	0 (0)	5 (3)
Gravida			
	None	5 (5.2)	11 (6)
	1 -2	43 (44.8)	116 (63.4)
	3 - 4	48 (50)	57 (27.3)
	>5	0 (0)	5 (2.7)
Abortion History			
	Yes	72 (75)	156 (82)
	No	24 (25)	34 (18)
Fertility intention			
	Wants to space	15 (15.6)	32 (16.8)
	Wants to limit	40 (41.7)	69 (36.3)
	Undecided	31 (32.3)	64 (33.7)
	Planning to have a child soon	10 (10.4)	25 (13.2)
Current Method	Implants	63 (65.6)	0 (0)
	Pills	0 (0)	92 (48.4)
	Injectable (Depo)	0 (0)	98 (51.6)
	LNG-IUS	5 (5.2)	0 (0)
	IUCD (LOOP)	28 (29.2)	0 (0)

Ever used LARCs		
Yes	37 (38.5)	63 (33.2)
No	27 (28.1)	127 (66.8)

Bivariate logistic regression showed number of previous pregnancies independently significantly associated with choice of LARCs over SARCs (OR 2.5, p<0.005). This was also the case with number of children. Women who had three or more children were more than twice likely to choose LARCs over SARCs (OR 2.4, p<0.006). These associations were found not statistically significant after multivariate logistic regression. The adjusted odds ratio and p-value for previous pregnancies were 1.9 and 0.5 respectively while those for number of children were 1.3 and 0.8 respectively. Table 4.4 shows the statistical output from logistic regression.

Table 4.4: Logistic regression outputs for reproductive health factors of LARC uptake

Variable	**OR**	**95% C.I.**	**P-Value 1**	**AOR**	**95% C.I.**	**P-Value 2**
Planning to have children	0.8	0.4-1.8	0.505			
Limiting/spacing	1.2	0.7-1.9	0.508			
Undecided	0.9	0.6- 1.6	0.505			
Previous pregnancy	2.5	1.5-4.1	0.001	1.9	0.3-11.5	0.498
Do you have children? Yes/No	0.4	0.03-4.4	0.441			
No children	0.6	0.2-1.6	0.294			
One to two	0.5	0.3-0.8	0.007	3.38	0.3-10.0	0.318
Three to Four	2.8	1.7-4.7	0.001	9.02	0.8-12.3	0.075

Abortion (Yes/No)	1.6	0.9-2.9	0.129
LARC use (Yes/No)	1.3	0.8-2.1	0.368

Future fertility intentions as a variable was dichotomized such that those who intended to have children or were undecided were coded 1 while those who intended to limit, or space children were coded 0. There was no significant difference between those who wanted children and those who wanted to limit or space in terms of uptake of LARCs (OR 1.2, p-value 0.508).

History of previous use of LARCs was not found to be a significant factor influencing one's uptake of LARCs at the present time. Sixty-four percent of cases had never used LARCs before compared to an almost identical 66% of controls. Similarly, history of previous abortions was not statistically significantly associated with uptake of LARCs.

4.2.4 Health system-related factors of LARCs uptake

While individual socio-demographic factors may contribute to uptake of LARCs, there are several health-system related (structural) factors that also come into play too. Accessibility of the LARCs as perceived by the users was found individually associated with uptake of LARCs.

This study indicate that about four fifth of cases 86.5% and 65.3% controls knew that LARC services are accessible while 8.3% cases and 7.4% were not aware of these services. Regarding availability of LARCs services, 69.8% cases and 49.5% controls had the information pertaining to this variable. Those who were not aware

that the LARCs services are available all the time were 28.1% cases and 19.5% controls. Only 63.5% cases and 52.1% controls reported that LARCs need less follow up visits. The least that is 1% cases and 3.7% controls were not aware of need for less follow up visits. Out of the total participants, 72.9% cases and 70.5% controls strongly support quality of service offered by the site. Those who did not support this view were 1% cases and 7.4% controls.

Table 3.5: Frequency table for health system-related factors associated with the uptake of LARCs

Variable		**Cases N=96 (%)**	**Controls N=190 (%)**
LARCs services accessible			
	Yes	83 (86.5)	124 65.3)
	No	8 (8.3)	14 (7.4)
	Don't know	0 (0.0)	5 (2.6)
LARCs services available all time			
	Yes	67 (69.8)	94(49.5)
	No	22 (22.9)	43 (22.6)
	Don't know	1 (1.0)	6 (3.2)
LARCs need less follow up visits			
	Yes	61 (63.5)	99 (52.1)
	No	27 (28.1)	37(19.5)
	Don't know	1 (1.0)	7 (3.7)
Views on quality of service			
	Strongly support	70 (72.9)	134(70.5)
	Doesn't support	1 (1.0)	14 (7.4)
	Neutral	25 (26.0)	38(20)
Ever counselled on LARCs			
	Yes	88 (91.7)	129 (67.9)
	No	8 (8.3)	61 (32.1)
Cadre who provided counselling			
	ART nurse	46 (47.9)	57 (30)
	Peer counsellor	11 (11.5)	30 (15.8)
	SRH nurse	23 (24)	31 (16.3)

Local clinic	3 (3.1)	0 (0.0)
Other	3 (3.1)	11 (5.8)

The table 4.5 above shows the health system- related factors associated with the use of LARCs at the New Start centre in Harare for a 12 month period January to December 2020. Participants who received LARC counselling at the site were 91.7% cases and 67.9% controls while only 8.3% cases and 32.1% controls never received the information. ART nurses were predominant in terms of providing counselling and this comprised of 47.9% cases and 30% controls.

In the same vein, women reporting that they believed that LARCs are available as and when they needed them were more likely to take up LARCs than those who said they did not believe that LARCs are available or those who said they did not know (OR 2.4, $p< 0.012$). Another factor that was found independently associated with LARC uptake was receiving prior counselling from service providers. Women of child-bearing age who are on ART who received counselling on use of LARCs before were more than 5 times more likely to take up LARCs than those who never received LARCs counselling before the interview. The was no difference between those reporting that they received counselling from their ART clinicians and those reporting that they got the counselling from SRH clinicians.

On multivariate logistic regression, only receiving prior counselling on LARCs remained statistically significantly associated with LARC uptake (AOR 3.5, p-value 0.016). Two structural factors which were assessed and found not associated with uptake of LARCs were clients' view on quality of service and whether they believed LARCs needed more follow-up visits or not. The statistical outputs for these variables are shown in Table 4.6 below.

Table 4.6: Association between health system-related factors and LARC uptake

Term		OR	95% C.I.		P-Value	AOR	95% C.I.		P-Value
LARCs are accessible									
	No	1							
	Yes	3.4	1.8	6.6	0.003	1.4	0.6	3.3	0.444
LARCs services available all time									
	No	1							
	Yes	2.4	1.4	3.9	0.012	1.3	0.7	2.4	0.391
LARCs need less follow up visits									
	No	1							
	Yes	1.6	0.9	2.7	0.067				
Ever counselled on LARCs									
	No	1							
	Yes	5.2	2.4	11.4	0	3.5	1.3	9.6	0.016
Cadre who provided counselling									
	Non-professional	1							
	Professional	3.5	2.02	5.9	0	2.02	1.04	3.9	0.037
Views on quality of service									
	Bad	1							
	Good	1.1	0.7	1.9	0.673				

4.3 Discussion and interpretation

There was less challenge in eliciting for information from the participants owing largely to the fact that the investigator is a usual service provider to the clients hence there is some of form of trust already. Most of the socio-demographic factors thought to impact uptake were not found to be so. These findings show that the decision on whether to take up LARCs or SARCs is more hinged on reproductive health factors and health system factors.

Both cases and controls were given equal opportunities and the investigator was the sole interviewer meaning that these variability between groups can be attributed to the real measured variables than interviewer factors. These finding are consistent with what the investigator assumed as well as what happens in day to day service provision as far as family planning services are concerned.

The factors which were found independently associated with uptake of LARCs included employment status, previous pregnancies, number of children, perceptions on accessibility and availability of LARCs as well as prior counselling on LARCs.

Possible explanation why employed women would opt for LARCs than SARCs is the fact that they do not have time to come to the clinic every 2-3 months for family planning as this may inconvenience their work routine. Women with 3 or more previous pregnancies and at least 3 children are more likely to use LARCs possibly since they will be thinking of limiting their family sizes.

Availability and accessibility of LARCs is a huge factor in their uptake. This study looked at perceptions of the clients on availability and accessibility and as one would expect, those women who perceived the accessibility and availability as good had higher chances of uptake. Conversely, one would not expect a woman who rates availability and accessibility lowly would take up LARCs. It is also no secret that

women who received prior counselling on LARCs before the interview would opt for LARCs because they know the benefits and advantages of using them and in addition they are assured of the availability and accessibility.

4.4 Summary of the chapter

This chapter presented the study findings in a descriptive way first before then presenting the analytics statistics and what they mean to the study. This chapter revealed that the response rate was 100% as all the study sample participants managed to take part in the study. Ninety-six cases and 190 controls were interviewed, to give a total sample of 286 women. The investigator then explained the analytical statistics in the results interpretation section.

CHAPTER 5 SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter concludes the research. Findings presented in the previous chapter are first discussed and compared with known local regional and global literature. The investigator postulates reasons for observed differences between observed and expected in respect of setting, time and any other relevant factors. After the discussion, the whole study is summarized in section 5.3. Based on the observed results and comparisons made in the discussion section, the investigator will then make conclusions on the study findings and ending with recommendations to the organization and national policy makers. Any identified areas for further study are presented at the end of the chapter.

5.2 Discussion

5.2.1 Socio-demographic factors of LARC uptake

In this study, age was not found to be associated with uptake of LARCs. Uptake patterns were the same across all the age categories except that those aged between 45 and 49 years were 3 times more likely to take up LARCs than those below 20. This is contrary to studies by Yirsaw et al. (2020) who found women aged 39 and above were more likely to take up LARCs, the reason being that there had no future fertility intentions. Another study in the United States of America by Weber, Briggs & Hanson, (2017) found the 25-29 age group the most consistent user of LARCs. Still there is not much information on age as a factor in Zimbabwean studies. The reason why age could possibly not be a factor for uptake of LARCs is, as put by the above-mentioned authors, the importance of provider education.

While women with at least secondary education were 60% more likely to take up LARCs than those with primary education and lower, this was not proved to be statistically significant. However, these findings agree with those of Kebede et al. (2020), in Ethiopia, who found women with at least tertiary education more than 4 times likely to take up LARCs. This is so because those of a higher educational standing comprehend the importance and benefits of LARCs better than those of a lower or no educational background. Ontiri et al., (2019) in their study in Kenya also found that women of tertiary education were more likely to take up LARCs.

Unlike some studies, women who belong to the Catholic church were equally likely to take up LARCs just like other Pentecostal denominations and more than the apostolic sects, traditional and others. While the Catholic church discourages its faithful from using family planning, church goers may in fact opt for the LARCs so that they are not in and out of the clinic for family planning against their conscience. The apostolic sects are known for barring their church members from healthcare centres and family planning is no exception. It is therefore not surprising to find that among both cases and controls, the Apostolic members ranked lowly.

This study could not find an association between marital status and LARC use. Those who were married or staying with a partner were equally likely to use LARCs as with those separated, widowed or divorced. The expectation was that those who are married would opt for LARCs as they have more chances of having unprotected sex than those divorced, widowed or separated. The findings are consistent with the research by Adenini, Amisakin & Somefun, (2019) who, in their study among several African countries, found that marital status was not statistically significantly associated with uptake of LARCs.

Women who were either formally or self-employed were significantly more likely to take up LARCs compared to the unemployed and the housewives. This is a position also held by Gashaye et al. (2020) who found women of higher income level more likely to use LARCs more than those of a lower income level. Adenini et al. 2019 also share the same sentiments, going even further to report that even among the employed category, those with higher positions had higher odds of using LARCs. As mentioned earlier in this report, this could be explained by the fact that professionally employed women opt for LARCs as the SARCs may inconvenience their work schedules.

5.2.2 Reproductive health-related factors of LARC uptake

The odds of LARC use were found significantly higher among women who had had at least 3 previous pregnancies and at least 3 children. This would be expected since these women would likely want to limit the number of their children for good. Ontiri et al., (2019) found similar results in their study. The report that high parity is linked to the need to limit and LARC use. Similarly, Anguzu, Sempeera & Sekandi, (2018) found previous gravidity and parity significantly associated with LARC use in Uganda.

There was no observed relationship between previous LARC use and current LARC uptake contrary to Yirsaw (2020) who found that cases where more likely to have used LARCs between 1 to 3 years back. This may be so because the expectation is that if one has used the LARC satisfactorily, they would opt for it again when it is time for family depending on what led them to discontinue in the first place. The observed phenomenon can be explained by the fact that health education at the institution is so thorough that new and old clients end up on the same level of

understanding after counselling such that their decisions may not be based by past experiences but rather current knowledge.

Future fertility intentions, measured as need to limit or space versus need to have children within the next two years, was also not statistically significantly associated with LARC uptake. This was also found by Anguzu et al (2018) in their Ugandan study. In the same vein, previous abortion history was not found associated with LARC uptake. There is few literature available regarding the use of LARCs by women who have a history of previous abortions.

5.2.3 Health system-related factors of LARC uptake

Uptake of any health care service, LARCs included is very much a function of health system factors and to a lesser extent, individual factors. Health system related factors assessed in this study included accessibility and availability of LARCs, quality of health care service and availability of proper counselling on LARCS.

Women of child-bearing age who were on ART generally found LARCs accessible and available all the time. Those who found LARCs accessible were more than 3 times likely to take up LARCs than those who found accessibility poor (OR 3.4, $p<0.003$) while those who found LARCs available all the time were more than twice likely to take up LARCs than their counterparts (OR 2.4, p-value 0.001). Such finding are not surprising because those who view accessibility and availability in high regard are more likely to be confident in the system. Silumbwe et al. (2018) and Goldstuck (2014) found similar results on accessibility and availability as factors which determine uptake of LARCs.

It is a common standard practice expectation that any woman who is served at the New Start Centre receives counselling on family planning services although they may not have asked for the services. Women who reported having received prior

counselling on LARCs were more than 5 times (OR 5.2, p-value <0.001) likely to opt for LARCs than those who reported never having received counselling on the service.

The counselling provided at the clinic is more of empowerment and information dissemination than anything else. It is to be expected that those who would have received prior counselling would take up the services because they now know the advantages and disadvantages of the service. Mwafulirwa et al. (2016) concurs with these findings and goes on to say that with proper training on LARCs, health care providers can influence to a large extent the uptake of the service.

One important aspect of service provision at the New Start Centre is that the clinicians serving in the different departments, that is, ART and SRH, are all rounders. They are trained on provision of SRH services as well as ART which makes it easier for them to provide prior counselling on the LARCs. It was also found out that clients who received counselling from clinicians (ART and SRH) were more likely to take up LARCs compared to those who did receive counselling from friends and other sources.

Clients' view on follow-up time of LARCs was not a significant factor in the uptake of the service despite the assumption that clients who thought that LARCs required less frequent follow-ups would be more likely to take up the service. One would argue that this was probably so because the clients may not have understood the question on length of follow-up time or number of follow-up visits. The other reason could also be that the counselling that the clients receives ends up nullifying those beliefs.

Quality of service is also a health system-related factor which determines uptake of LARCs and any other healthcare service. In this study though, client perception on

health care service quality was not found significantly associated with uptake of LARCs, contrary to numerous regional and global findings. A study by Silumbwe et al. (2018) in Zambia found that poor health care worker attitude, another measure of quality of service was a hindrance to uptake of LARCs.

The reason for this variation in this study could be that the study measured quality of service based on what the client said. Clients may not be too open to say that they disapprove the quality of service especially if they intend to come back for the same service. In fact, these are women who are in the ART cohort at the New Start Centre so they may feel if they report the quality of service as poor, it will compromise their relationship with their regular service providers, which is not the case though. Galle, et al., (2018) also found similar results in Mozambique, where despite more than 83% rating the quality of service highly, LARC uptake remained a low less than 1%. This was the same in this study despite that LARC services were discussed in at least 33% of the sessions.

5.3 Conclusion

This study found that as anticipated, uptake of LARCs is a function of individual socio-demographic and reproductive health related factors and large extent health system structural factors. Information dissemination was found to be key in uptake of LARCs as evidenced by the strong association between prior counselling and uptake of the service. Where information dissemination was sound, some anticipated factors that determine uptake fell by the wayside. Since this study found more cases in the 45-49 years age group while several studies give different age groups as more likely to take up LARCs, it can be concluded that age on its own does not influence ones' decision that much.

For women on ART at the New Start Centre, the model of service delivery seems to be working well in terms of uptake of LARCs. Having the ART provider giving information on family planning ensures uptake in honesty. Furthermore, prior counselling on LARCs came various sources including ART Nurses, SRH Nurses and local clinic as well as friends and others. The fact that someone may have used the LARCs before should not be used to assume that they would opt for the same method next time as has been shown in this study.

5.4 Implications of the findings

The most important observation from this study is the importance of giving health education to women of childbearing age on choice of a method of family planning. Consequently, service providers must put in place control systems in their service provision to ensure that women are counselled on the available family planning options.

It is important for service providers to check for relevant employment history as they sell the LARCs idea to the clients because it has been shown that employment status has a bearing on choice of family planning method.

In as much as clients may get information on LARCs from family and friends, this can never replace the expert knowledge delivered by clinicians. Nevertheless, it is also evident that clients advise each other either positively or negatively within their circles which impacts on uptake of the service.

To the management at PSI Zimbabwe, these results means that the model that they employed of using an all-round cadre in provision of ART and SRH service is bearing fruits. In addition, these results point to a good supply chain of LARCs as most of the participants revealed that LARCs were easily accessible and available all the time which is a benefit to the management.

5.5 Recommendations

1. While peer counsellors are some of the mentioned cadres on counselling, there is need to ensure that they are reoriented on the various family planning methods so that this reflects the position of the organization.
2. Due to COVID-19 the service delivery model is more of community-based rather than the clients visiting the clinic. In this model, intergrated HIV care nurses nurses who operate in clusters must take the initiative to offer the LARCs to the clients in their clusters rather than wait for SRH nurses to organize outreach activities for such services.
3. It is crucial to ensure that new cadres are adequately trained on LARCs and family planning in general so that coverage increases. The new cadres are engaged as part time clinicians who offer ART related services in the community.

5.6 Suggestions for further research

While it is known that uptake of LARCs is generally low at the New Start Centre, there is need to widen the study to include not just women who are on ART but rather all women in care at the clinic including those on PrEP.

Some of the women in the cohort are female sex workers while others are in the general population category. It is also worth investigating family planning method preferences by population category.

The family planning programme at the New Start Centre at New Africa House may also need to be evaluated to ensure that it is meeting its objectives and identify any weaknesses in the system. While this research dealt with heath system-related factors of LARC uptake, it is the investigator's view that it could have been done better if the sytem wide factor were investigated. When investigating system-wide factors,

one must look at availability of the contraceptive over a period of say one year, identify any stock outs of major and minor accessories in the service.

Another topic that could be interesting to investigate is the prevalence and patterns of LARC discontinuation among those who would have used the method. As noted in this study, 33% of the controls had used LARCs before. This means there is a huge number of previous LARC users who are opting for SARCs. Why this is happening is an area for investigation. This study may give insight to why LARC uptake is low from an angle of previous user. If there are any challenges that can be addressed from the findings they have to be solved on time.

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A literature review discusses published information in a

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A literature review is a surveys scholarly articles, books and

other sources relevant to a particular issue, area of research, or theory, and by so doing, providing a description, summary, and critical evaluation of these works.

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APPENDICES

Appendix A: Informed consent form for the participant (English)

My name is Egifa Zororo Muchena a final year Master's in Public Health student from Africa University. I am carrying out a study on barriers and facilitators to uptake of long-acting reversible contraceptives by women of childbearing age on

ART at New Start Centre in Harare. I am kindly asking you to participate in this study by answering questions on this questionnaire.

What you should know about the study:

Purpose of the study:

The purpose of the study is to determine the barriers and facilitators to uptake of long-acting reversible contraceptives by women of childbearing age on ART at New Start Centre in Harare. You were selected for the study because you are a woman who is between 18 and 49 years of age. Two hundred and eighty-six other women of the child bearing age who are on ART will be interviewed in this study as well.

Procedures and duration

If you decide to participate you will be required to provide information by answering questions. It is expected that this will take about 20 to 30 minutes.

Risks and discomforts

There are no anticipated risks to participation in this study. No physical, mental, psychological or spiritual harm is associated with this study. Some questions that will be asked are of personal nature therefore, you may feel embarrassed to respond to them. Answers will be kept private and confidential. If ever you feel uncomfortable, you are free not to answer questions that you are uncomfortable with. The length of the interview might be too long for you, feel comfortable to say so and we may discontinue for a while.

Benefits and/or compensation

There is no remuneration for taking part in this study however the results from this research may influence policy in the provision of LARCs which will benefit you and

other women of the childbearing age who are on ART. You will not receive any compensation for being in this research study.

Confidentiality

Confidentiality, privacy, and anonymity will be maintained throughout the study. No-one will be able to link your questionnaire to you. No one will even know that you participated in the study. Only the researcher will have access to the informed consents and questionnaires which will always be stored in a locked cabinet at the researcher's home. This material will be stored for about a year and incinerated thereafter.

Voluntary participation

Taking part in this research study is voluntary. You do not have to participate in this research. If you choose to take part, you have the right to stop at any time. If you decide not to participate or if you decide to stop taking part in the research later, there will be no penalty or loss of benefits to which you are otherwise entitled.

Offer to answer questions

Before you sign this form, please ask any questions on any aspect of this study that is unclear to you. You may take as much time as necessary to think it over.

Authorization

If you have decided to participate in this study, please sign this form in the space provided below as an indication that you have read and understood the information provided above and have agreed to participate.

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Name of Research Participant (please print) Date

Signature of Research Participant

If you have any questions concerning this study or consent form beyond those answered by the researcher including questions about the research, your rights as a research participant, or if you feel that you have been treated unfairly and would like to talk to someone other than the researcher, please feel free to contact the Africa University Research Ethics Committee on telephone (020) 60075 or 60026 extension 1156 email aurec@africau.edu

Appendix B: Informed consent for the participant (Shona)

Ini ndinonzi Egifa Zororo Muchena gore rekupedzisira Master's muPublic Heath mudzidzi wekubva kuAfrica University. Ndiri kuita ongororo yezvipingaidzo uye vafundisi kutora nzira dzekudzivirira kubata pamuviri dzakareba dzinodzokerwa nevanhukadzi vane zera rekubereka paART paNew Start Center muHarare. Ndiri

kukumbira nemutsa kuti utore chikamu muchidzidzo ichi nekupindura mibvunzo pane ino bvunzo.

Izvo zvaunofanira kuziva nezve chidzidzo:

Chinangwa chekudzidza:

Chinangwa chechidzidzo ndechekuona zvipingaidzo uye vafambisi kutora nzira dzekudzivirira kubata pamuviri dzinotora nguva refu nemadzimai ezera rekubereka paART paNew Start Center muHarare. Iwe wakasarudzirwa chidzidzo ichi nekuti uri mukadzi ane makore ari pakati pe18 ne 49 makore ekukura. Vamwe mazana maviri nemakumi masere nevatanhatu vamwe vakadzi vezera rekubereka vana vari pachirongwa cheART vachabvunzurudzwa muchidzidzo ichi zvakare.

Maitiro uye nguva

Kana iwe ukafunga kutora chikamu iwe uchafanirwa kupa ruzivo nekupindura mibvunzo. Zvinotarisirwa kuti izvi zvinotora maminetsi makumi maviri kusvika makumi matatu.

Njodzi uye kusagadzikana

Iko hakuna njodzi dzinofungidzirwa kutora chikamu muchidzidzo ichi. Hapana panyama, wepfungwa, wepfungwa kana wemweya kukuvara kwakabatana neichi chidzidzo. Mimwe mibvunzo ichazobvunzwa ndeyemhando yako saka, unogona kunzwa kunyara kupindura. Mhinduro dzichachengetwa zvakavanzika uye zvakavanzika. Kana ukambonzwa kusagadzikana, wakasununguka kusapindura mibvunzo yausiri kugadzikana nayo. Kureba kwebvunzurudzo kunogona kunge kwakanyanya kukurebera, inzwa wakasununguka kutaura kudaro uye tinogona kumira kwechinguva.

Zvakanakira uye / kana muripo

Iko hakuna mubairo wekutora chikamu muchidzidzo ichi asi mhedzisiro kubva kutsvagurudzo iyi inogona kukanganisa mutemo mukupa LARC inozobatsira iwe nevamwe vakadzi vane zera rekubereka vana vari pachirongwa cheART. Iwe haugamuchire chero muripo wekuve mune ino ongororo yekudzidza.

Kuvanzika

Kuvanzika, kuvanzika uye kusazivikanwa zvichachengetwa mukati mechidzidzo. Hapana-mumwe anokwanisa kubatanidza rako remibvunzo kwauri. Hapana kana mumwe anozoziva kuti iwe wakapinda muchidzidzo. Muongorori chete ndiye achawana mukana kune zvakabvumiranwa uye mibvunzo yemibvunzo inozogara yakachengetwa mukabhodhi rakavharirwa pamba pemuongorori. Izvi zvinhu zvinochengetwa kwerinenge gore uye zvinopiswa ipapo.

Kuzvipira kutora chikamu

Kutora chikamu mune ino ongororo yekudzidza ndeyekuzvidira. Iwe haufanire kutora chikamu mune iyi tsvagiridzo. Kana ukasarudza kutora chikamu, une mvumo yekumira chero nguva. Kana iwe ukafunga kusarega kutora chikamu kana kana iwe ukafunga kurega kutora chikamu mukutsvagurudza gare gare, hakuzovi nechirango kana kurasikirwa kwebhenefiti iyo iwe yaunopihwa neimwe nzira.

Kumbira kupindura mibvunzo

Usati wasayina fomu iri, ndapota bvunza chero mibvunzo pane chero chinhu chechidzidzo ichi chisina kujeka kwauri Iwe unogona kutora yakawandisa nguva sekufunga nezvazvo.

Mvumo

Kana wafunga kutora chikamu muchidzidzo ichi ndapota saina fomu iri munzvimbo yakapihwa pazasi sechiratidzo chekuti wakaverenga uye wanzwisisa ruzivo rwapihwa pamusoro uye wabvuma kutora chikamu.

---------- ----- ----------

Zita reKutsvaga Mutori chikamu (ndapota purinda) Zuva

---------- ----------

Siginecha Yekutsvagira Mutori chikamu

Kana iwe uine chero mibvunzo maererano nechidzidzo ichi kana fomu yemvumo inopfuura iyo yakapindurwa nemuongorori inosanganisira mibvunzo pamusoro pekutsvagurudza, kodzero dzako semubatiri wekutsvagurudza, kana kana iwe uchinzwa kuti hauna kubatwa zvakanaka uye unoda kutaura kune mumwe munhu asiri muongorori, ndapota inzwa wakasununguka kubata Africa University Research Ethics Committee parunhare (020) 60075 kana 60026 kuwedzerwa 1156 email aurec@africau.edu

Appendix C: Interviewer- administered questionnaire

Topic: Barriers and facilitators to uptake of long-acting reversible contraceptives by women of childbearing age on antiretroviral treatment at New Start Centre in Harare.

Instructions

- Answer as many questions as you can
- Answers to be written in the spaces provided.
- Do not write your name on any of the forms.

Section A: Sociodemographic information

Q1. What is your age? [ ]

Q2. What is your Marital Status?

a) Married	
b) Single	
c) Divorced	
d) Separated	
e) Widowed	
f) Cohabiting	

Q3. What is you educational level?

a) Never	
b) Primary	
c) Secondary	
d) Tertiary	

Q4. What is your religion?

a) Apostolic	
b) Pentecostal	
c) Catholics	
d) Traditional	
e) Others	

Q5. What is your employment?

a) Unemployed	
b) Housewife	
c) Professional	
d) General worker	
e) Other	

Section B: Reproductive health related characteristics

Q6. Do you have any children?

a) Yes ☐ b) No ☐

Q7. If yes how many?

a) 1-2 ☐ b) 3-4 ☐ c) 5+ ☐

Q8. How many pregnancies did ever had?

a) None ☐ b) 1-2 ☐ c) 3-4 ☐ d) 5+ ☐

Q9. Do you have any history of abortion?

☐ ☐

a) Yes b) No

Q10. Have you ever-used LARCs before HIV diagnosis?

a) Yes ☐ b) No ☐

Q11. What are your future fertility intentions?

a) Wants to space ☐ b) Wants to limit ☐

b) Undecided ☐ d) Planning to have a child soon ☐

Q12. Which method are you currently using?

a) Pills ☐ b) Injectable (Depo) ☐ c)Implants ☐

a) LNG-IUS ☐ e) IUCD (Loop)_ ☐

Section C: Health System related factors

Q13. Have you ever received counselling on LARCs?

a) Yes ☐ b) No ☐

Q14. If yes, you received the counselling from;

a) SRH Nurse ☐ b)ART Nurse ☐ c)Peer counsellor ☐

b) Other specify.....

Q15.Are the LARC services accessible?

a) Yes ☐ b) No ☐

Q16. Are the LARC services available all the time?

a) Yes ☐ b) No ☐

Q17. Do you think LARCs require less frequent follow up visits?

☐ ☐

a) Yes b) No

Q18. How do you view the quality of service offered in the family planning unit?

a) Neutral ☐ b) Strongly support ☐ c) Does not support ☐

Thank you for your participation in this study

Appendices D Interviewer- administered questionnaire (Shona)

Musoro wenyaya: Ongororo pamusoro pezvipingaidzo uye vafundisi pakutora nzira dzekudzivirira kubata pamuviri dzinotora nguva refu dzinoitwa nemadzimai ezera rekubereka aripamushonga wemaARV kuNew Start Centre muHarare.

Mirayiridzo

- Pindura mibvunzo yakawanda sezvaunogona.
- Isa mhinduro panzvimbo dzakapiwa.
- Usanyora zita rako pane mafomu apihwa.

Chikamu chekutanga: Nhoroondo yehupenyu nemagariro

Q1. Ungadaro uine makore mangani? ☐

Q2.Makamira sei maererano nekuroorwa?

a) Ndakaroorwa	
b) Handisati ndaroorwa	
c) Takarambana	
d) Takapesana	
e) Ndakafirwa	
f) Tinogarisana	

Q3. Makadzidza kusvika papi? **(**Sarudza kamwechete**)**

a) Handina kuenda kuchikoro	
b) Primary	
c) Secondary	
d) Koreji	

Q4. Chitendero **(**Sarudza kamwechete**)**

a) Vapostori	
b) Pentecositi	
c) VaRoma	
d) Chivanhu	
e) Zvimwe	

Q5. Munoenda kubasa here? **(**Sarudza kamwechete**)**

a) Handishandi	
b) Ndinochengeta mhuri	
c) Muhurumende	
d) Ndinoita basa rinenge riripo	
e) Zvimwe	

Chichamu Chepiri: Hutano hweukama hwekubereka

Q6. Mune vana vamunavo here?

a)Hongu ☐ b) Kwete ☐

Q7. Mune vana vangani? ☐

Q8. Muhupenyu mungadaro makamboita pamuviri here?

a) Handina ☐ b) Kamwe ☐ Kana kaviri ☐

c) Katatu kana kana ☐ d) Kashanu kana kudarika ☐

Q9. Mungadaro makambobva pamuviri here?

a) Hongu ☐ b) Kwete ☐

Q10. Mungadaro makamboshandisa mhando ndemakore akawanda ekuronga mhuri musati mava pamushonga wekudzikisa hutachiona?

a) Hongu ☐ b) Kwete ☐

Q11.Ungava netarisiro yekuita mumwe mwana here?

a) Ndinoda kumbosiyanisa ☐ b) Ndinoda kumbomira ☐

c) Ndichambofunga ☐ d) Ndinoda kuva nemumwe mwana pedo ☐

Q12. Ungadaro urikushandisa mhando ipi?

a) Mapiritsi ☐ b) Jekiseni (Depo) ☐

c) Yepasi peruoko ☐ d) LNG-IUS ☐ d) IUCD (Rupu)_ ☐

Chikamu chechitatu: Hutano hwakanangana nehurongwa

Q13. Ungadaro wakambokurukurirwa here pamusoro pemhando dzenguva refu?

a) Hongu ☐ b) Kwete ☐

Q14. Ungadaro wakakurukurirwa naani?

a) Mukoti wekuronga mhuri ☐ b) Mukoti weART ☐

c)Chipangamazano ☐

d) Vamwe.....

Q15. Mhando dzemakore akawanda dzinowanikwa nyore here?

a) Hongu ☐ b) Kwete ☐

Q16. Mhando dzemakore akawanda dzinogara dziripo here?

a) Hongu ☐ b) Kwete ☐

Q17.Unoona kunge mhando dzemakore akawanda dzisingazode kuuya kakawanda here?

a) Hongu ☐ b) Kwete ☐

Q18. Munoona muchibatsirwa zvakanaka here pamunouya?

a) Pakati nepakati ☐ b) Ndinowirirana nazvo ☐

c) Handiwirirane nazvo ☐

Tinokutendai zvikuru.

Appendix E: PSI Zimbabwe Approval Letter

psi
Zimbabwe
Healthy lives. Measurable results

Tee 263-4[illegible]

Block E, Emerald Office Park
30 The Chase West
Emerald Hill, Harare
Zimbabwe

Fax: 263-4 339032 psi.org

06 November 2020

To whom it may concern

Dear Sir/Madam

Ref: Approval Letter to conduct a study. at PSI site (New Africa House) for academic purposes

Dissertation Proposal: BARRIERS AND FACILITATORS TO UPTAKE OF LONG ACTING REVERSIBLE CONTRACEPTIVES AT NAH NEW START CENTRE BY WOMEN ON ANTIRETROVIRAL THERAPY.

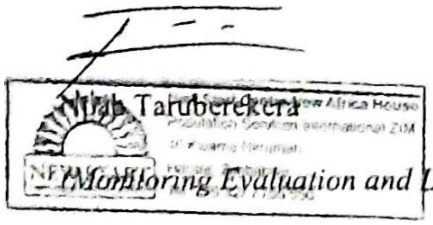
Evaluation Topic: EVALUATION OF PREP PROGRAMME AND SYPHILIS SURVEILLANCE SYSTEM AT NEW AFRICA HOUSE

This letter serves to inform you that PSI Zimbabwe has granted permission to Egifa Muchena to carry out the above-mentioned study at New Africa House for academic purposes only.

The investigator is mandated to observe ethical standards of the highest degree and will be required to seek ethical approval from the local Institutional Review Board (IRB) and to also acknowledge PSI and our major donors in the final project. Further, the applicant should sign a PSI oath of confidentiality form should the study require that the applicant collects identifiable data. All study costs should be borne by the researcher.

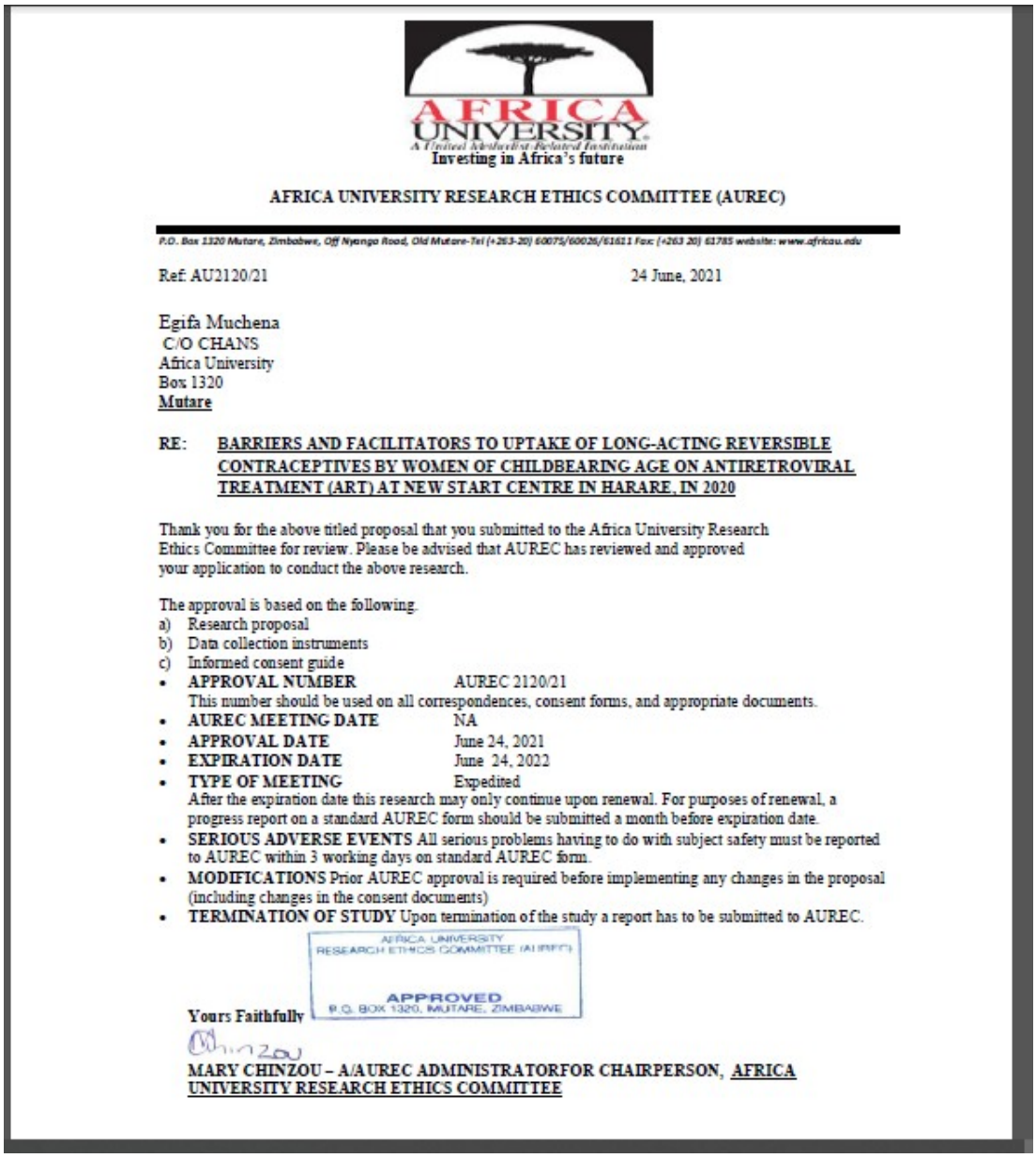
The Information gathered in the study should only be used for academic purposes and the applicant will be obliged to share study findings with key program members at PSI, the donors and stakeholders locally and internationally.

Yours faithfully



Monitoring and Learning Advisor — PSI Zimbabwe

Appendix F: AUREC Approval Letter



AFRICA UNIVERSITY
A United Methodist-Related Institution
Investing in Africa's future

AFRICA UNIVERSITY RESEARCH ETHICS COMMITTEE (AUREC)

P.O. Box 1320 Mutare, Zimbabwe, Off Nyanga Road, Old Mutare-Tel (+263-20) 60075/60026/61611 Fax: (+263 20) 61785 website: www.africau.edu

Ref: AU2120/21 24 June, 2021

Egifa Muchena
C/O CHANS
Africa University
Box 1320
Mutare

RE: **BARRIERS AND FACILITATORS TO UPTAKE OF LONG-ACTING REVERSIBLE CONTRACEPTIVES BY WOMEN OF CHILDBEARING AGE ON ANTIRETROVIRAL TREATMENT (ART) AT NEW START CENTRE IN HARARE, IN 2020**

Thank you for the above titled proposal that you submitted to the Africa University Research Ethics Committee for review. Please be advised that AUREC has reviewed and approved your application to conduct the above research.

The approval is based on the following.
a) Research proposal
b) Data collection instruments
c) Informed consent guide

- **APPROVAL NUMBER** AUREC 2120/21
  This number should be used on all correspondences, consent forms, and appropriate documents.
- **AUREC MEETING DATE** NA
- **APPROVAL DATE** June 24, 2021
- **EXPIRATION DATE** June 24, 2022
- **TYPE OF MEETING** Expedited
  After the expiration date this research may only continue upon renewal. For purposes of renewal, a progress report on a standard AUREC form should be submitted a month before expiration date.
- **SERIOUS ADVERSE EVENTS** All serious problems having to do with subject safety must be reported to AUREC within 3 working days on standard AUREC form.
- **MODIFICATIONS** Prior AUREC approval is required before implementing any changes in the proposal (including changes in the consent documents)
- **TERMINATION OF STUDY** Upon termination of the study a report has to be submitted to AUREC.

AFRICA UNIVERSITY RESEARCH ETHICS COMMITTEE (AUREC) APPROVED P.O. BOX 1320, MUTARE, ZIMBABWE

Yours Faithfully

MARY CHINZOU – A/AUREC ADMINISTRATORFOR CHAIRPERSON, AFRICA UNIVERSITY RESEARCH ETHICS COMMITTEE