AN ASSESSMENT OF UPTAKE OF LONG-ACTING FAMILY PLANNING METHODS AMONG WOMEN OF CHILDBEARING AGE IN GWERU DISTRICT, ZIMBABWE.

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

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10 March 2022

UNIVERSITY *of the*
WESTERN CAPE

KEYWORDS

Women of child-bearing/reproductive age

Unintended pregnancies

Unmet contraceptive need

Contraceptive methods

Contraceptive use

Contraceptive discontinuation

Contraceptive service provision

Long-acting reversible contraceptive use

Factors influencing Long-acting reversible contraceptive use

Gweru District, Zimbabwe

ABSTRACT

Background

The problem of the unmet need for contraception continues to affect contraceptive uptake particularly the use of long-acting reversible contraceptives. Globally, Sub-Saharan Africa is reported to have the highest unmet contraceptive need. For example, nearly 50 % of married women of reproductive age, wanting to avoid pregnancy or plan when to have children, are reportedly not using contraception. More specifically, the prevalence of contraceptive use, in the Midlands Province of Zimbabwe where the Gweru District is situated, is estimated to be only 11%. This study examined the uptake of and reasons for use of different types of modern contraceptives; the factors influencing contraceptive use; discontinuation of use and non-use and reasons thereof for contraception and for long-acting reversible contraception in particular, amongst women in the Gweru district attending contraceptive services. In addition, it examined the levels of satification; reasons for satisfaction and dissatisfaction; quality of counselling services; and factors that influenced contraceptive service accessibility.

Methodology

A quantitative, descriptive, cross-sectional study design was conducted, using a multistage sampling method. Data were collected from women respondents aged 18-49 years attending contraceptive services at selected 10 health facilities in Gweru District; as well as 10 healthcare providers of contraceptive services. Interviews were conducted for both groups of respondents by trained interviews, using two separate structured interviewer-administered questionnaires. The data were analysed using SPSS software. Ethical approval was obtained from Biomedical Research and Ethics Committee (University of the Western Cape) and Medical Research Council of Zimbabwe. Written informed consent for both service providers and women respondents were obtained.

Results

The greatest proportion of women respondents (31.7%) currently using contraception reported using the Oral Contraceptive Pill. This was followed by use of long-acting reversible contraception, with 27.8% reported using the sub-dermal implant (Implant) and 20.4% the IUCD. Approximately 90% of the respondents had medium to high awareness of who should

use contraception and what the active ingredients of various methods are; Most women reported using contraception either for child spacing (53.3%), delaying becoming pregnant (19.5%) or to limit the number of children they wished to have (16.5%). Approximately a third (32.2%) had discontinued contraceptive use in the past because they wished to become pregnant, while concerningly 29.3% reported that they had discontinued use because they had an unintended pregnancy while on contraception, due to contraceptive failure. The key reason reported for use of long-acting reversible methods was because they offer long term protection against pregnancy. The most common reason for stopping IUCD and Implant use were reported to be due to their side effects. In a multivariable analysis, the only factor independently associated with long-acting reversible contraception use was living in a rural community. In a multivariable analysis, the only factor independently associated with contraception discontinuation was living in a rural community and having one child. With respect to access to contraceptive services, the vast majority of respondents (89%) reported accessing their contraception from public sector contraceptive clinics

The results from the health service providers interviewed showed that onnly a small proportion (20%) of service providers reported having received training in IUCD insertion and removal. Providers reported that Implants, were the only Long-Acting Reversible Contraceptive method in stock, even though 20% of service providers reported having also been trained in IUCD insertion and removal. Health service factors that affected lack of availability of some methods were attributed by providers to stock outs (50%), followed by the absence of trained personnel (40%). and health services related factors such as availability of the method and trained personnel.

Conclusion

The uptake of long-acting reversible contraceptives in Gweru District was slightly lower than that of short acting methods. This is due to a myriad of reasons that include few trained personnel in their insertion and removal and low availability the IUCD in some public sector facilities This is mainly due to issues of access and service availability at health facilities. The independently significant predictor of use of long-acting reversible contraceptives was living in rural area. The independently significant determinant of discontinued use of contraceptive was living in rural area. The specific needs of women needing contraception who live in

different geographical areas of residence in needs to be considered in family planning programme strategies.

DECLARATION

I declare that my mini-thesis titled, **An assessment of uptake of long-acting family planning methods among women of childbearing age in Gweru District, Zimbabwe** is my work, and has not been submitted for any degree or examination at any other university and that any text, diagram or other material utilized in the text have been clearly cited and referenced.

Full Name: Shakespear Mureyani

Date: 11 March 2022

Signature

ACKNOWLEDGEMENTS

I would like to extend my sincere gratitude and appreciation to my supervisor Professor Diane Cooper for the splendid input and expertise in providing fruitful guidance in this mini-thesis as well as my co-supervisor Dr Fidele Mukinda for amazing interactions on correction discussions online with clear resolutions.

On the other hand, I would like to make special mention to all my MPH convenors that assisted me in building analytic, social, management and public health skills throughout my journey of study.

I would like to thank the Ministry of Health and Child Care for granting me the opportunity and permission to carry out the study in the district. I am also grateful to the research assistants who helped me throughout the data collection period.

I would like to thank my wife, Runyararo for her love and unwavering support throughout the course and my two daughters Tinevimbo, Panashe and son Craig for their patience and my friend Dr Marvelous Sungirai as an academic who supported me all the way in my low mood phases during my thesis built up.

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DEFINITION OF TERMS

Unintended Pregnancy	One that was not wanted or intended at the time of conception regardless of whether contraceptive was utilized.
Method mix	The percentage distribution of total contraceptive use across various methods—reflects both supply (availability of affordable methods) and demand (client preferences)(Bertrand *et al*., 2020).
Women of childbearing age	Females between 15 and 49 years of age
Availability	Refers to functioning public health and health care facilities, goods and services as well as programmes available in sufficient quantities to the population (UNCSCR, 2000).
Women's 'unmet need for contraception'	Refers to women in their reproductive years who want to stop or delay childbearing but are not using any method of contraception (United Nations, 2014).

LIST OF ABBREVIATIONS AND ACRONYMS

ACOG	American College of Obstetricians and Gynecologists
GDHE	Gweru District Health Executive
FP2020	Family Planning 2020
IUCD	Intrauterine contraceptive device
ICPD	International Conference on Population and Development
LARC	Acting Reversible Contraceptive
MOHCC	Ministry of Health and Child Care
SSA	Sub Saharan Africa
UNFPA	United Nations
USAID	United States Agency for International Development
WHO	World Health Organisation
ZNFPC	Zimbabwe National Family Planning Council

CHAPTER 1: INTRODUCTION

This first chapter provides the background to the research conducted for this mini-thesis. It provides a motivation for the research, a research problem statement, the research questions, the purpose of the study and its aims, and the objectives.

1.1. Background

Contraception refers to the intentional prevention of conception through either natural or artificial means (Cleland, 2009). Contraception enables reproductive choices as part of a global consensus that reproductive health is a human right, enabling greater empowerment and equality in reproductive options (ICPD, 1995). However, unintended pregnancies and births can have serious adverse health effects, such as negative health outcomes resulting in increased maternal mortality and complications and unsafe abortions (Yazdkhasti *et al.*, 2015). Whereas preventing closely spaced and ill-timed pregnancies and births through contraceptive use can decrease maternal morbidity and mortality. In the developing world, maternal mortality rates decreased from 480/100,000 in 1990 to 450/100,000 in 2005 with increased use of contraception.

Furthermore, in all countries where the prevalence of contraceptive use was 30% or more, the infant mortality rate was 48% lower than in countries where less than 10% of married women practiced contraception (Donovan & Wulf, 2002:3). In addition, it is estimated that lowering fertility rates through improved contraceptive availability and uptake in countries with currently high fertility rates can enhance economic productivity and potential lifetime earnings. For example, Stenberg *et al.* (2014) estimated that 27 lower-middle-income countries out of 74 high burden countries in maternal and child deaths would exceed 8% of their Gross Domestic Product (GDP) by 2035 due to enhanced use of contraception. Hence, avoiding unintentional pregnancies and improving child spacing can also contribute to positive economic and social consequences for women, their families, and society (Singh, Sedgh & Hussain, 2010) and enhance the environment (Hanes, 2016).

The Sustainable Development Goals (SDG), adopted by the U.N. in 2015, highlighted the importance of addressing unmet contraceptive needs. Its goals, which address sexual

reproductive health and rights, include SDG 3 and 5 on health and well-being and focus on achieving gender equality and empowerment for women and girls. These goals are important in their own right, but if they are not adequately addressed, they will also negatively affect other SDG goals. For instance, it will be impossible to end poverty and hunger (goals 1 and 2), ensure quality education for all (goal 4), and promote sustained economic growth (goal 8) without ensuring that every woman has access to quality, rights-based family planning services (Dockalova *et al*., 2016).

In 2019, there were 1.9 billion women of reproductive age worldwide, with 1.1 billion estimated as having an unmet need for contraception, compared with 842 million reporting using contraception. Among married women using contraception, 76% reported having their contraceptive need met by a modern contraceptive method. The remainder reported using traditional methods, including the rhythm method, withdrawal, and the use of herbs (Kantorová *et al.*, 2020). Family Planning 2020 (FP2020), hosted by the U.N., is a global public-private partnership focused on increasing access to and use of contraception. It aims to make modern contraceptive methods accessible by 2020 to an additional 120 million women in the 69 poorest countries *(*Brown *et al*., 2014).

Women in Sub-Saharan Africa (SSA) have the highest unmet need for contraception globally (48.8 million women). While nearly fifty percent of married women of reproductive age in SSA reported wanting to space or limit their number of children, less than one in seven married women of reproductive age reported using a modern method of contraception. This gap underscores the importance of investing in contraceptive programmes so that women can plan to avoid unintended pregnancies and pursue other life commitments (Pile *et al*., 2007). In SSA, women's unmet need for modern contraception increased from 31 million in 2008 to 36 million in 2012 (UNFPA, 2012).

Women's unmet need for contraception in the Gweru District, where this study was conducted, was recorded as 11%. in 2017 (GDHE, 2017). This unmet need was close to the recorded Zimbabwe national average of 12.8% (Zimbabwe National Statistics Agency and ICF International, 2015). The Gweru District Annual Report (2017) reported that among the 47% of adolescent and young women (15-24) who had become pregnant, 15% were unintended (GDHE, 2017). Women's unmet contraceptive need, which could lead to unintended

pregnancies, abortions, maternal deaths and complications was therefore not being adequately addressed.

Long-acting methods of contraception include reversible or non-reversible/permanent methods. Long-acting reversible contraceptive methods (LARC) are the IUCD and progestin sub-dermal implants (brand named Implanon and Jadelle) Permanent methods include sterilization for females and vasectomy for males (WHO/RHR & CCP, 2018). It is recommended that women, especially younger women, consider using LARC methods if they wish to avoid pregnancy in the foreseeable future. This is because they are more efficacious than short-acting methods that rely on women's ability to remember taking them for efficacy. They have few contraindications and do not need regular resupply visits after insertion (Tibaijuka et al., 2017a; Brunie et al., in press). For these reasons, in such circumstances, LARC methods are promoted for use by international and national health bodies such as the American College of Obstetricians and Gynaecologists (ACOG), donor agencies like USAID, UNFPA, and the Zimbabwe National Family Planning Council (ACOG, 2015; UNFPA & WHO, 2015; ZNFPC, 2018; USAID, 2020).

1.2. Problem statement

Awareness of contraception was reported as virtually universal in the Zimbabwean Demographic and Health Survey (ZDHS, 2010/11. In this survey, in response to questions regarding knowledge of 'any' contraceptive method in Zimbabwe, 98% of women and 99% of men reported knowing at least one method of contraception. However, reported knowledge of LARC at the time was low. For example, while knowledge of the Oral Contraceptive Pill was above 90% among both men and women. A much lower proportion - two-thirds of women and a third of men reported knowing about the sub-dermal hormonal implant. In addition, only 61% and 44% of women and men respectively reported knowing about the IUCD. Using facility data; out of a total 7843 clients who accessed contraceptive services from thirty facilities in the Gweru district in 2017, 90 % reported using short-acting methods, and only 9% reportedly using LARC (GDHE, 2017).

Despite seemingly good general knowledge of contraception, in the Gweru district of Zimbabwe, in which this study was conducted, as mentioned above 15% of pregnancies among adolescents and young women were reported as unintended in 2017. Among contraceptive users in the Gweru district during this period there was a relatively low reported uptake of modern methods of contraception (49 %) (GDHE, 2017).This shows that there is a gap between access and need for contraceptive services. This situation has been worsened by the economic meltdown in Zimbabwe. There was therefore a need to determine among women currently attending contraceptive services in the Gweru district: factors motivating use of contraception, the types of contraceptive methods used and the reasons for use, non-use of discontuation - with a focus particularly on the reasons and factors influencing use of LARC. In addition, it was important to assess potential challenges to contraceptive service delivery, including that of LARC in this district of Zimbabwe.

1.3 Research questions

Among women attending contraceptive clinics and service providers offering contraceptive services in the Gweru district of Zimbabwe:

1) What was women's level of awareness of contraception and their reproductive characteristics and where did they access their contraception?
2) What were the reasons for and the factors that influenced the uptake of contraception and the different types of modern methods of contraception?
3) What were the factors that influenced the use, non-use, and discontinued use of contraceptive methods and specifically of long-acting reversible contraceptives?
4) What quality-of-care counselling services are provided by contraceptive service providers and what were the levels of satisfaction with the contraceptive services and methods used?
5) What were the factors that influenced both contraceptive service and method accessibility and availability?

Question 5 is related to interviews with both the women and the service providers

1.4. Aim of study

This study aimed to examine women attending contraceptive clinics in the Gweru District; reasons for their contraceptive use, non-use and discontinuation, factors influencing their

uptake of different types of modern contraceptive methods specifically investigating long-acting reversible methods and the factors affecting contraceptive service and methods accessibility and availability.

1.5. Objectives

Within contraceptive services in the Gweru district:

a) To describe the socio-demographic characteristics of the women contraceptive users and service providers.
b) To describe women's levels of awareness with respect to contraceptive use and where women accessed their contraception.
c) To determine the reasons for the use of contraception among women attending contraceptive services, the types of methods use and the reasons for their choice of contraceptive method.
d) To describe types of contraceptive methods used and reasons for their use, non-use and discontinuation of use, with a specific focus on LARC.
e) To determine the factors associated with women's use, non-use and discontinuation of contraceptive methods, and those associated with LARC in particular.
f) To describe the quality-of-care counselling services are provided by contraceptive service providers and the levels of satisfaction with the contraceptive services and methods used.
g) To investigate participant views on the availability and accessibility of contraceptive services and methods.

Objectives a and g are related to the interviews with both the women and service providers.

1.6. Purpose of study

The knowledge gained in this study can provide knowledge on reasons for use, non-use and discontinuation of contraception and types of contraceptive methods; factors associated with these in the Gweru district in Zimbabwe; and information on the potential shortcomings in contraceptive service provision to women who attend contraceptive services in this district of Zimbabwe. This can contribute developing strategies to address challenges in women's uptake of contraception. Furthermore, this research could assist the medical personnel in the study area in carrying out contraceptive health education to promote the uptake of LARC, where this

is appropriate to women's contraceptive needs. Understanding the factors that influence uptake with specific focus to LARC will help policy makers co-design and roll out a policy or plan that addresses inequities and improve quality of care in contraceptive programming.

Finally, the study results can additionally form a basis for stimulating further research in this field at a country and regional level among all women aged 15 -49 and method mix informed by choice not limited to particular methods in this study. It provides a background in the research among the reasons for discontinued use for LARC versus sociodemographic characteristics.

1.7 Layout of thesis

This thesis is organized into six chapters. This first chapter introduced the study by covering the background information available, the problem statement, the research questions, the aim, objectives, and the purpose of the study. The second chapter reviews literature relevant to the study. It also describes the use of contraception in Zimbabwe, its contraceptive policies, programmes and contraceptive service delivery. The third chapter describes the study methodology. The results are presented in Chapter 4. Chapter 5 discusses and interprets the study results, comparing these with the results of other similar studies. It also and documents the study's limitations. Finally, chapter 6 presents the conclusions and recommendations.

CHAPTER 2: LITERATURE REVIEW

This chapter examines empirical and theoretical literature relevant to the research focus of this thesis. The literature review covers the following areas: the benefits of contraception in general, unplanned pregnancies and contraceptive uptake, and the types of modern methods of contraception, including short-term methods, long-acting reversible contraceptives, and permanent methods. It also reviews the literature on the determinants of contraceptive uptake, which includes factors associated with use, non-use, and discontinuation of use; preference or avoidance of particular types of contraceptive methods; and service barriers and facilitators to access to contraception and contraceptive method types. In addition, it describes the use of contraception in Zimbabwe and the country's contraceptive policies, programmes and service delivery.

2.1. The benefits of contraception in general

The International Conference on Population and Development's (ICPD) in Cairo in 1994 was path breaking in broadening previous definitions of reproductive health and rights. It recognized that women's empowerment and reproductive health are intertwined, as contraception promotes women's fuller and more equal participation in civil, cultural, and socio-economic opportunities (ICPD, 1995). Its Program of Action called for access to family planning, safe pregnancy, and childbirth services.

Contraception can be used to plan if and when to have children and how many children to have. In addition, it allows both women and men to delay or space having children in order to pursue career and educational goals, which could be interrupted by mistimed pregnancies (Guttmacher Institute, 2020). In addition, contraception reduces pregnancy-related risks. Closely spaced pregnancies pose potential health risks to the mother, including the greater likelihood of obstetric haemorrhage and maternal anaemia, which can lead to severe maternal morbidity or death and mental ill-health problems (Conde-Agudelo *et al.*, 2012; Young, 2018). Maternal complications are more common in women younger than 18 years who are at increased risk of preterm labour, maternal anaemia, and chest or urinary tract infections and older women (>35 years) may be at greater risk of having a miscarriage or hypertensive disorders and giving birth

to a baby with chromosomal abnormalities such as Down's syndrome, (Jolly *et al*., 2000; Lampinen, Vehviläinen-Julkunen & Kankkunen, 2009).

Furthermore, contraception reduces the need for abortion by preventing unintended pregnancies that may lead to unsafe abortions, a fundamental cause of maternal mortality. Finally, it also assists in reducing teenage pregnancy (NZFP, 2013). Timely use of contraception additionally offers an opportunity to take the baby's best care interests into account before and after birth. Unintended pregnancies may increase the risk of adverse infant outcomes in the first year after delivery. Increased infant risks include low birth weight, preterm deliveries, and being small for gestational age. All of these can impact child development and socio-economic potential later in life (DaVanzo *et al.*, 2008; Hack, Klein, & Taylor, 1995; Mayo Clinic, 2020).).

Hence, contraception offers women choices in their reproductive lives and the opportunity for better maternal and infant health outcomes. It is also instrumental in reducing unsustainable population growth and its adverse effects on the economy, environment, health, and meeting national developmental milestones (Dahan-Farkas & Irhuma, 2016).

2.2. Unintended pregnancies and contraceptive uptake

2.2.1 Unintended pregnancies

Worldwide, every year, out of an estimated 213 million pregnancies that occur, about 85 million are unintended, with 75 million occurring in developing countries. The African continent has the highest number of unintended pregnancies with a rate of 80 per 1000 compared to 43 per 1000 in Europe (Gizaw *et al*., 2017). Annually in Sub-Saharan Africa (SSA), about 14 million unintended pregnancies occur, with about 44% in women between 15 and 24 years (Hubacher, Mavranezouli, & McGinn, 2008).

Almost all women are at risk for unintended pregnancy throughout their reproductive years. However, adolescents, women of low socio-economic status and those less vigilant about continued contraceptive use have been found to be most at risk (Finer & Zolna, 2011). Unintended pregnancies occur due to contraceptive non-use and may occur as a result of contraceptive failure (Forrest, 1994). A national South African survey conducted in 2012 revealed that two-thirds of reproductive age women had had an unintended pregnancy in the

past five years, a quarter of which were from reported contraceptive failures (Chersich *et al.*, 2017).

A review of a study conducted during 2009 and 2010 amongst a randomly selected sample of 1,272 women who had ever been pregnant in 4 suburbs of Nairobi in Kenya found that there was a significantly higher prevalence of unintended pregnancy among young and unmarried women aged 15-19 years compared to women 20 years and older. This was regardless of their education and household wealth status (Ikamari, Izugbara, & Ochako, 2013).

2.2.2 Contraceptive uptake

In 2012, 645 million women of reproductive age in the developing world were reported to be using modern methods of contraception. Contraceptive uptake increased by 42 million from 2008 to 2012; with 52% of the increase attributed to population growth and 48% due to an increase in women using modern methods of contraception (Singh & Darroch, 2012). In SSA, 38 out of the 49 countries in the Southern and Eastern African regions reported higher levels (between 30 -37%) of use of modern methods of contraceptive among married women compared with Western and Middle (Central) Africa. Although contraceptive uptake in Eastern Africa increased from 20% in 2008 to 27% in 2012, in Western Africa, there was no increase in uptake between 2008 and 2012, with contraceptive uptake remaining at less than 10% (Singh & Darroch, 2012).

2.3 Types of modern contraceptive methods

Modern methods of contraception include the Oral Contraceptive Pill (hereafter referred to as the Pill), including the Progestogen-only pill, injectable hormonal contraceptives, condoms, long-acting reversible contraceptives (LARC), and long-acting non-reversible (permanent) methods of contraception.

2.3.1 Short term methods

Combined Oral Contraceptive Pills (COCPs/the Pill) contain low doses of 2 hormones—progestin and oestrogen similar to the natural hormones; progesterone and oestrogen in a woman's body. Combined Oral contraceptive Pills (COCP) work primarily by preventing the

release of eggs from the ovaries. Only about seven pregnancies occur per 100 women using the Pill over the first year of use. In addition, there are no delays in conceiving after stopping use (WHO/RHR & CCP, 2018). Progestogen Only Pills (POP) contain low doses of progestin like the natural hormone progesterone in a woman's body but do not contain oestrogen. They are used as a contraceptive method during breastfeeding and by women who cannot use a method containing oestrogen. Both types of the Pill thicken the cervical mucus and disrupting the menstrual cycle to prevent ovulation (WHO/RHR & CCP, 2018).

Injectable hormonal contraceptives include two and three-monthly administered methods. They work by gradually releasing the hormone progestogen into a woman's bloodstream. This method prevents ovulation and thickens the cervical mucus, making it difficult for sperm to enter through the cervix (Adetunji,2011:588). The two-monthly administered method contains Norethisterone enanthate (brand named NET-EN), and the 3-monthly method contains Depot medroxyprogesterone acetate (DPMA). These injectable contraceptive methods have broad appeal among many women because they do not require daily compliance for efficacy and can be safely administered immediately after a miscarriage or birth (Lim *et al.*, 1999). However, despite having some disadvantages, they may cause menstrual irregularities disturbance and a delayed return to fertility in some women (Fraser, 1982).

Condoms are sheaths that fit over a man's erect penis (male condoms) or fit loosely inside a woman's vagina (female condoms). Most are made of thin latex rubber. Condoms also are made from other materials, including polyurethane, polyisoprene, lambskin, and nitrile. They form a barrier that keeps sperm out of the vagina, preventing pregnancy. They also have an added advantage in preventing sexually transmitted infections, including HIV (WHO/RHR & CCP, 2018). Dual contraceptive method protection, which is the simultaneous use of a condom and an effective other type of contraceptive method, is an excellent strategy to avoid unintended pregnancy and other important adverse reproductive health outcomes, such as sexually transmitted infections, including HIV (Kleinschmidt *et al.*, 2003).

2.3.2 Long-acting reversible contraceptives

Long-acting-reversible contraceptives (LARC), including intrauterine contraceptive devices (IUCD) and sub-dermal hormonal implants (the Implant), have much greater effectiveness in

preventing pregnancy and are more cost-effective if used for more than a year, compared to short-acting alternatives (Winner, Buckel & Secura, 2012; Higgins, 2017). Therefore, they have been recommended for use and provision as an exceptionally reliable method for preventing unintended pregnancies, rapid repeat pregnancies, and abortions. The Implant has been recommended especially for young women wishing more long term avoidance or delay of a pregnancy (ACOG, 2015). As they are reversible (are removable), they can allow pregnancy when intended (Rees *et al*., 2017). However, Blumenthal, Voedisch & Gemzell-Danielsson, (2011) have shown that despite the safety and efficacy of LARC, these methods remain underutilized.

The one LARC method includes two types of IUCD. One is copper-based and the other progestogen-based. These can be inserted to prevent pregnancy at any time of the menstrual cycle and following birth, abortion, (Canavan, 1998). A risk of using the IUCD includes uterine perforation. However, this is rare, with a documented rate of only 0.3-2.6 per 1000 insertions for progestogen-containing and only 0.3-2.2 per 1000 insertions copper IUCD (Batur, Bowersox & McNamara, 2016). In addition, there is the potential for infection in the period soon after insertion, but this is also uncommon.

The other LARC method, the sub-dermal hormonal implant (the Implant), offers women a viable and highly effective hormonal method for contraception, providing 3 to 5 years of protection against pregnancy (depending on the type of implant used). In addition, it is easily inserted in the arm by a trained health worker with a rate of just one unintended pregnancy per 2,000 women (Jacobstein & Stanley, 2013). The Levonorgestrel (LNG) implant (brand named Jadelle) consists of two flexible rods inserted just under the skin of a woman's arm, where they release the synthetic progestogen into the bloodstream. It works by preventing ovulation and thickening the cervical mucus. The one-rod etonogestrel (ENG) implant (brand named Implanon) works similarly in preventing pregnancy.

There is some evidence that Implants may be more effective in preventing pregnancy than IUCD. The Implant had been found to have high contraceptive efficacy with pregnancy rates between 0.0 to 0.5 woman-years of and up to a 2.5 years continuation rate compared with that of the copper IUCD with a pregnancy rate of 2.8 per 100 woman-years and discontinuation rate of 8.5% (Bahamondes *et al*., 2015). In addition, a longitudinal study in Nepal found that

women using IUCD and Implants both experienced reduced contraceptive discontinuation and pregnancy within one-year post-abortion compared to other methods such as pills and injectables. However, the initiation of these long-acting methods is generally low despite their availability (Puri *et al*., 2014). Some concerns have been raised about implant effectiveness in HIV-positive women using the antiretroviral drug efavirenz due to drug-drug interactions, leading to 50–60% reductions in progestin pharmacokinetic exposure. However, it has been noted that HIV-positive women who were efavirenz users and were using Implants were three times less likely to become pregnant than those women using the injectable contraceptive, DMPA, and the Pill (Morroni, Bekker & Rees, 2015).

2.3.3 Long-acting non-reversible (permanent) methods

Female sterilization is a permanent surgical method of contraception for women. The procedure involves blocking or cutting the fallopian tubes so that the eggs released from the ovaries cannot move down the tubes to meet released sperm. Male sterilization involves a surgical procedure. The two tubes in the testes (known as the vas deferens) are cut. Hence, sperms are blocked from being released during sexual intercourse. Both methods are the most suitable methods for use if a woman or man does not wish to have any further children. These procedures are difficult to reverse once completed (WHO/RHR & CCP, 2018).

2.4 Use of types of modern contraceptive methods

In Europe, the Pill and condoms are the most commonly reported contraceptive methods used (17.8% and 14.6 %, respectively). In Eastern and Southern Asia, the IUCD is the most commonly used contraceptive method, with 18.6% of women reportedly relying on this method, followed by male condom use, at 17%. In North Africa and West Asia, the most commonly reported methods used are the Pill (10.5%) and the IUCD (9.5%) (UNDESA, 2019). In contrast, nearly half (47%) of women using contraception in the SSA region reportedly use injectable contraceptives. The predominance of the use of this one method is disproportionately higher than in other developing regions such in Asia (2.8%), Latin America and the Caribbean (6.8%), and Middle East (1.0%), where women report the Pill, the IUCD and sterilization as their most commonly used contraceptive methods (Tsui, Brown & Li, 2017; UNDESA, 2019).

2.5 Factors associated with contraceptive uptake/use

Socio-demographic characteristics such education and economic status, the perceived cost-benefit of fertility regulation compared to having children, the number of existing living children and healthcare system issues have been found to be some of the key influencers of contraceptive uptake among women of reproductive age (Sai, 1993).

A study conducted by Safari *et al*., (2019) in rural North West Tanzania among 5,416 women of reproductive age, found that contraceptive use was significantly associated with older age (≥35 years), marital status (married or cohabiting compared to women who were single, divorced or widowed) and having primary or post- primary school education (compared to no formal education) (Safari *et al*., 2019). A study in 2015 in the Southern Nations and Nationalities Peoples' Region of Ethiopia by Endriyas *et al*., (2017) among 3205 non-pregnant reproductive age women found that contraceptive use was associated with younger age (15-19 years) better overall knowledge of and attitudes towards contraception, with women who already had children compared to those who had no children and with women who had not experienced a child death (Endriyas *et al.*, 2017).

A national study conducted in the Nigeria in 2013 among 119,386 reproductive age women on the determinants of modern contraceptive uptake revealed that the strongest–predictors for uptake were higher levels of education and higher economic status among women. A review of two Demographic and Health Surveys (DHS) conducted between 1997 and 2006 in 13 SSA African countries revealed economic status as a key influence of contraceptive access and use. Poorer women much less likely to access and use contraception than wealthier women. In addition, there were statistically significant greater odds, after adjusting for their fertility intentions, of wealthier women using long term contraception, than poorer women (Creanga *et al*., 2011). Therefore improving female education levels and employment (i.e. improved financial status) are two factors able to improve contraceptive uptake (Johnson, 2017). A community based study conducted in Kenya in 2015 among 745 reproductive age women from the Digo community, showed that there were a higher levels of contraceptive uptake among women with more formal education, those who already had children, who had attended antenatal care in during the pregnancy of their last child as well as those who were intending to stop or delay future births (Mochache et al., 2018).

2.6. Factors associated with contraceptive non-use and discontinuation

Globally, reported reasons for women not using contraception include: lack of knowledge about contraceptive options or their correct use; unavailability of contraceptive services; limited supplies or choices of contraceptive methods; fear of social disapproval or partners' opposition to use; fear of potential side effects and other health concerns in using contraception (WHO/RHR & CCP, 2011).

In a study conducted in 2009 with a sample of 384 women aged 18 to 49 years, drawn from a community in Vanga health District, in the Democratic Republic of Congo, fear of side effects including infertility or delays in fertility[1], cost and unavailability of contraception, religious beliefs, and male partner's objections were noted as some of the main barriers to women's contraception uptake (Izale *et al*., 2014). In addition, methods that required partner cooperation, such as condoms and male sterilization were less likely to be chosen as a contraceptive method, as they needed a discussion and consensus between partners, which may be difficult to achieve.

A study in 2014 in Gauteng, South Africa in two higher education institutions with sample of female undergraduate students (aged 18 to 24 years), including 111 young women from campus A and 106 from campus B, found that inadequate awareness and knowledge of effective contraception resulted in the non-utilization of contraceptives (Coetzee & Ngunyulu, 2015). A qualitative study conducted in 2011 in at the University Putra Malaysia in Malaysia among six married female university staff from Faculty of Medicine and Health Sciences and Faculty of Education with three from each faculty, found that personal, cultural, and health system factors served as barriers to modern contraceptive use. The health system barriers included negative responses from service providers and low male involvement in contraceptive service delivery programmes. Personal barriers related to lack of knowledge about various modern methods of contraception, fears of side effects and misconceptions that contraceptives cause cancers (Najafi-Sharjabad, 2011)

[1] For example, fertility issues have been associated with the injectable contraceptive, Depo-medroxyprogesterone acetate (DMPA, also known as Depo Provera. When a woman stops using DMPA, there may be a six to nine-month delay before she can conceive (WHO/RHR and CCP, 2018).

In a study conducted among 1,954 Ugandan university students in 2010 , those not in a steady relationship had higher odds of contraceptive non-use than those in a steady relationship (Mehra *et al.*, 2012). A cross-sectional community study conducted in 2007 in Nigeria in the Gindiri district showed that modern contraceptive use was generally low among rural women in the studied community. This was due to nonpermissive cultural attitudes to the use of modern methods contraception, which required the approval of a male partner. Use of traditional methods of contraception were more common than modern methods (Agbo, Ogbonna & Okeahialam, 2013). A similar picture was noted in a national Zimbabwean survey conducted in 2015 among a sample of 11 000 households, which also showed that urban married women were more likely to use modern contraceptives than rural married women (71% versus 63%) (Zimbabwe National Statistics Agency and ICF International, 2015).

Other factors acting as negative influences on contraceptive uptake include opposition coming from churches, for instance, the Catholic church, and opposition from male partners (Sai, 1993). A Zambian study using data from Zambian Demographic and Health Survey data, collected between 2001 and 2002 among a representative sample of 7,658 reproductive aged women, found that if women's male partners disapproved of family planning, this negatively influenced women's contraceptive use (White & Speizer, 2007).

Several factors are associated with contraceptive method discontinuation. A case-control study conducted in low-income suburbs in Karachi, Pakistan in 2016 among one group of women who had continued contraceptive use and a second group who had discontinued use, found that some key factors leading to discontinuation included: women experiencing side effects[2] and experiencing difficulties accessing clinics to manage these side effects; problems accessing contraceptives by themselves; and lacking support for contraceptive use from husbands who had lower levels of education and who were unemployed (Thobani *et al*., 2019). In addition, a study conducted in the eThekwini District in KwaZulu-Natal province, South Africa in 2015 among 8 key informants, which included educators, community care givers, traditional healers, and programme managers for sexual and reproductive health programs and 103 male and

[2] These included weight gain and menstrual problems, perceived weakness and fears that continued use could lead to infertility.

female community members, revealed that male dominance in relationships, limited awareness of contraception and increased misunderstandings about contraceptive side effects contributed to non-use and discontinuation by female partners (Kriel *et al*., 2019).

A study conducted in Lusaka, Zambia in 2013 among 1,060 HIV concordant positive (N=721) or HIV-discordant couples (N=339) concluded that factors that influenced contraceptive switching or discontinuation were contraception-related misconceptions about bleeding changes that occurred as well as perceived interactions with antiretroviral medicines among younger couples (Haddad *et al*., 2013).

In a review of demographic and health data from 6 countries, older women (35-39 years), those with fewer numbers of living children and longer duration between the index birth and the next birth were significantly more likely to discontinue contraceptive use (Curtis, Evens & Sambisa, 2011). This was due to a desire to become pregnant. In a study in Brazil, the main medical reasons provided for discontinuation of specific methods such as the IUCD and the Implant were expulsion (in the case of the IUCD), bleeding changes and pain. In addition, personal reasons were cited for discontinuation in the case of both methods (Diaz *et al*., 2000).

Contraceptive discontinuation has been sometimes reported as occurring in some groups of women soon after initiating a modern method of contraception. For example, a randomised controlled trial conducted between 2013 and 2016 among 859 women who had sought-post abortion care at two public hospitals in Kisumu, Kenya found that initially women were highly motivated to use injectable contraceptives, post-abortion. However, a quarter declined the use of the 3–monthly injectable contraceptive at the three months follow-up visits for contraception after its initial uptake. The main reasons reported were as follows: discontinuation due to side effects (39%), mainly bleeding problems, 24% due to partner refusal and another 24% due to a renewed desire for pregnancy. Lack of supplies of the 3-monthly injectable contraceptive was also reported as a reason for discontinuation by 13% of respondents (Makenzius *et al*., 2018).

The literature reviewed above highlights the complexity of factors associated with the use, non-use or discontinuation of contraceptive use and the need to consider the women's different circumstances in specific settings.

2.7 Factors associated with preference or avoidance of types of contraceptive methods

There are diverse reasons why women prefer or avoid specific types of contraception. For example, in a study in Bangladesh among married women (10-49 years), most women reported a preference for using both the Pill and condoms over other modern methods based on their convenience and easiness to use, as well as fear of problems caused by side effects of other methods. They were least likely to choose sterilization as a preferred method due to fears associated with undergoing the sterilization surgical process and that few health facilities offered these services. The cost of having the procedure done, and religious reasons such as that having children was the will of God were also reported to deter the use of this method (Mannan, 2002).

In a study conducted in 2009 among 1123 reproductive age, married women and their husbands in rural areas of Punjab in India, 80.5% of women who were aware of the injectable as a method of contraception were reluctant to use it due to its cost. Among women who were using male condoms as their contraceptive method, 91.8% reported that their husband complained of lack of sexual sensation when using this method. Various complaints and beliefs underpinned women's reluctance to use several contraceptive methods. Exacerbation of menstrual problems were reported among those who used the injectable, the Pill and the IUCD. Women using the injectable, the Pill and the IUCD feared that these may lead to infertility. Some women reported that they feared use of the IUCD as they believed it may migrate into the abdomen. (Bajwa *et al*., 2012).

In a study conducted in rural Bangladesh and Kenya among married women (15 to 39 years), some women feared that Pill might cause menstrual disturbance and unpleasant side effects, injectables might impair fertility, and some perceived Implants as unsafe if used for long. Nevertheless, factors women considered favourable with respect to use of Implants and injectables were that they were judged to have an effectiveness of 90% in preventing pregnancy. Past injectable users preferred this method because of ease of access, whereas some past Implant users preferred the method because of their husbands' approval (Machiyama *et al*., 2018).

Higgins (2017) reported on a qualitative study conducted in 2014, using focus group discussions in Dane County in Wisconsin in the United States among 40 women aged 18 to 29 who were ever users of contraception. Some of the women had used LARC while others had not. They were asked specifically about their attitudes towards use of LARC. The study found that age, life stage and relationship status strongly influenced attitudes towards use of LARC. Those who were younger and wished to avoid pregnancy over a longer period were most receptive to using LARC methods. Additional reasons cited by those receptive to using this method, were personal reasons such as being in a casual relationship or wishing to postpone marriage and therefore wanting a longer-term method that would prevent pregnancy. Others reported that they were motivated by wanting to complete their education or begin a career. The main factors influencing those who were against using LARC included: although they wanted to avoid a pregnancy, they felt that it would be more difficult to have a LARC method removed than to stop other methods, when they decided they were ready to have a pregnancy. This was particularly the case among those women who were older.

Contraceptive health service providers have been found to influence women's choices (preferences or avoidance) of particular methods. A study by de Irala *et al.* (2011) among 1,137 women aged 18 to 49 years in five European countries found that service providers frequently suggested oral contraceptives and IUCDs instead of encouraging women to making their own preferred choice. Since service providers were viewed as a credible source of information and advice, as they are the ones that assess medical eligibility for a particular method, women tended to rely on the providers' advice for their choice of method

A study conducted in 2006/7 In Cape Town, South Africa, among 216 women clients in eight family planning clinics revealed limited knowledge among clients regarding the IUCD, with less than half of the study clients having heard of this method. Those who had heard of the method lacked clear knowledge of how it worked to prevent pregnancy. IUCD use was low, with only 4% reporting ever having used the method and 1% reported current use. While most reported that they had not specifically been discouraged by providers from using IUCD, they had not received counselling on this method The main reason given by women who were ambivalent or uninterested in IUCD use was lack of knowledge of the method. Other reasons included being discouraged by a service provider or by a personal acquaintance about it and reliability in preventing pregnancy (van Zijl, Morroni & van der Spuy, 2010).

Some studies have found that a factor influencing women to choose of LARC as a contraceptive method was the number of children they already had. For example, a study in urban Cameroon among reproductive age women found that women who already had two living children were 3 to 4 times more likely to prefer LARC methods than those with fewer children (Ajong *et al*., 2018).

2.8 Factors associated with service barriers and facilitators to uptake of contraception and to use of contraceptive method types

A diversity of factors has been found to act as service barriers to contraception use and use of specific methods.

A study conducted in rural Burundi among women of reproductive age by Ndayizigiye *et al.* (2017) sought to explore barriers to low uptake of modern methods of contraception. Service utilization barriers to contraceptive uptake included a shortage of service providers and low availability of their preferred methods.

A study conducted in Oslo, Norway, among Somali reproductive age women >18 years, found that service-related barriers to accessing contraception included local language barriers, lack of adequate information on contraception, and the high costs of purchasing modern methods of contraception (Gele *et al*., 2020).

In a study in Uganda among reproductive age women's uptake of a contraceptive method modern contraception depended on its cost implications. Raising the cost or imposition of fees for contraceptive services acted as a deterrent to more impoverished women accessing these services (Andi *et al*., 2014)

A study previously mentioned, that drew on data from the Zambian 2001/2002 Demographic and Health Survey conducted among a representative sample of reproductive age women, found that unmet need for family planning may continue to exist in rural areas even if contraception was available, if women did not find there were contraceptive methods available that met their specific individual needs (White & Speizer, 2007).

Service related barriers cited in a qualitative study conducted during 2017 among 47 men and women aged 15 to 49 in fishing communities near Lake Victoria in Uganda included: contraceptive method stock-outs, unreliable working schedules, which may make it difficult to access services within clinic opening hours, and the unavailability of trained health workers who could offer some methods such as IUCD, Implants or sterilisation, These methods were only available in the capital, Entebbe, making access to these methods very difficult due to the time and cost of travelling to Entebbe (Nanvubya *et al*., 2020). In a review of barriers to adolescent LARC use in the United States, the authors identified obstacles to use as knowledge deficits and misconceptions among healthcare providers and adolescents about LARC (Pritt, Norris & Berlan, 2017).

Availability of modern contraceptive methods differs according to the type and brand of contraceptive, with low availability specifically of LARC methods in health facilities being a barrier to uptake. Facility managers may be reluctant to stock a product if there is no or little uptake, as the product may expire without a sale being made. This has been reported, for example, with respect to facility managers' reluctance to stock female condoms if there is no or low preference by women for this method (Adjei *et al*., 2015).

In a study conducted in rural Kenya among reproductive age women, structural barriers such as a shortage of human resources, provider bias against this method and lack of adequate provider skills to provide these types of methods were identified as critical barriers to the uptake of this long-acting contraceptive method (Ontiri *et al*., 2019).

Another study conducted in 2016 in health facilities in Uganda and Kenya in which 14 facility managers and 20 service providers in Uganda and 57 facility managers and 70 service providers in Kenya took part, found that although the services offered the insertion of the Implant as a contraceptive method, a substantial proportion of providers in both countries had never practiced client LARC removal during training. Difficulties when women wished to have their Implant removed were therefore reported (Christofield *et al*., 2017). This deterred women from choosing the Implant as a method.

In a study in Mbarara District in Uganda conducted among 180 women of reproductive age, the most common reasons reported for using short-acting methods where they had the freedom to stop using such methods without the provider's involvement. Thus having client rather than provider control of the method influenced method choice, making the women less likely to choose LARC (Tibaijuka et al., 2017a)

In a study of LARC uptake among 288 rural women aged ≥18 years in six remote villages in Guatemala it was found that most women in this marginalized population opted for a LARC method only if there were culturally competent providers that respected marginalised women's values, norms and views and other multiple access barriers to contraception that includes geographic inaccessibility and cost were removed. (Austad, Shah & Rohloff, 2018).

A study conducted in California among site medical directors or senior clinicians found out that, although there had been significant progress in expanding access and understanding specifically about LARC contraceptive methods, many clinicians lacked adequate training in the provision of IUCD and Implants (Biggs *et al*., 2014). Clinicians may remain uncomfortable about their skills in insertion despite training or they may have undergone inadequate training. Hence they tended to avoid offering these methods (Philliber *et al*., 2014).

To examine factors facilitating the uptake of contraception, by Paine, Thorogood, & Wellings (2000) conducted a systematic review of 142 articles identified up to December 1998 in which the relationship between aspects of service provision and factors affecting safety and effectiveness was discussed. The findings were that healthcare provider training in communication with clients on the side effects of contraceptives and emphasising the choice of methods was a critical client-provider exchange that encouraged contraceptive method use. This view is supported by a study conducted by Dehlendorf *et al.* (2016) in the United States of America among women presenting for contraceptive care. This study provided evidence that the quality of interpersonal care, which included the building of rapport, listening to client's perspectives about continuation with a method, measured using both the patient report and observation of provider behaviour, facilitated women's contraceptive uptake. Quality of care considerations in developing strategies to reduce the unmet need for contraception assisted in sustaining current contraceptive use and reaching new contraceptive users This was likely to have a positive impact on overall contraceptive uptake (Fruhauf *et al*., 2018).

2.9 Use of contraception in Zimbabwe

The Zimbabwe Demographic Health Survey 2011–2015 reported the country's contraceptive prevalence as 67 % in 2015 compared to 59 % in 2011 (Zimbabwe National Statistics Agency & ICF International, 2015:11). The prevalence was supposed to be increased from 59% to 68% by 2020. It also showed that contraceptive use varied by the number of living children, residence, province, education, and wealth quintile. Among women aged 15 to 49 years, similar proportions of married (67%), and sexually active unmarried women (68%) reported using contraception. However, only 6% of women without children reported contraceptive use. Contraceptive use rose when a woman reported having three or more living children.

Women who lived in urban areas were more likely to report using contraception (62%) than those in rural areas (7%). There was a positive association between contraceptive use and education, with 67% of married women with more than secondary education reporting using contraception compared to 43% of married women with no education. Women in the highest wealth quintile were more likely to report contraceptive use (64%) than those in the lowest wealth quintile (54%) (Zimbabwe National Statistics Agency and ICF International, 2015). In contrast to reports from other SSA countries in which the injectable was reported to be the most common type of contraceptive method used (UNDESA, 2019), the most common contraceptive method used in Zimbabwe were short-acting methods, such as the Pill. In 2015 there was reportedly low uptake of LARC, particularly in rural areas. There was low uptake of LARC (13%) in Uganda which is a similar picture to Zimbabwe (Anguzu *et al.*, 2014). In addition, there was a reported high unmet need for contraception specifically among young unmarried sexually active women (ZNFPC, 2015)

Various reasons have been given for the sub-optimal use of contraception in the country. Among the approximately 30% of women not currently using contraception, reasons cited for non-use included, 21% reporting that this was due to side effects they had experienced from previous use of a contraceptive method, and 6.3% of reported that they did not feel a need to use contraception as they engaged in infrequent sex. For example, if their husband was away, or they were unmarried. The reasons for discontinuation of contraception across all contraceptive methods were reported as a desire to become pregnant (40%), followed by side

effects or health concerns (21%), and method failure (12%) (Zimbabwe National Statistics Agency and ICF International, 2015). However, there is a paucity of research in Zimbabwe, include in the Gweru district, examining more recent use of the prevalence of different types of contraceptive methods and what barriers and facilitators there exist to contraceptive access and particularly to LARC uptake in the country.

Reported contraceptive discontinuation rates varied by type of contraceptive method. Among all methods, 24% were reportedly discontinued use within 12 months. The male condom was most likely to be discontinued (37%), followed by injectables (33%), the Pill (21%), and Implants (8%). The reasons for discontinuation by method type were diverse. For example, 15% reported discontinued use of injectables due to side effects or health concerns, and 1% reported that condom use was discontinued due to a latex allergy (Zimbabwe National Statistics Agency and ICF International, 2015). Although Zimbabwe ranks relatively high in the proportion of women using contraception compared to some other sub-Saharan countries, service delivery issues such as poor physical access, inadequate quality of services, and the cost of contraception may have hampered women in making informed choices about contraceptive method use.

Contraceptive use in in 2015 the Midlands province where Gweru District is situated, was lower (59%) than national overall average of 67% for contraceptive use. The Midlands province ranked sixth in terms of the percentage of women using contraception in Zimbabwe's ten provinces. The highest percentage of use was reported in Mashonaland Central (64%), followed by Mashonaland East (63%) (Zimbabwe National Statistics Agency and ICF International, 2015).

2.10 Contraceptive policies, programmes, and service delivery in Zimbabwe

Contraceptive services in the country are provided both through the public health sector and private health sector, although contraceptive service provision through the public sector dominates. The public sector receives the largest consignment of contraceptive commodities in the supply chain (Zinanga, 1992). Provision of health service provision through the public sector is also a key component of Zimbabwe's national health vision.

An example of a private-public partnership programme introduced in 1998 was the 'ProFam Network' with medical professionals offering reproductive services in the private sector. This was sponsored by Population Services International (PSI) Zimbabwe (PSI/Z). This partnership complemented the effort of the Zimbabwe National Family Planning Council at the time. Though this ProFam Network has stopped operating; the Blue Star programme has taken the space (PSI/Z, 1998).

Another example of a private-public partnership programme launched in 2012 was the 'Blue Star Zimbabwe' aimed at providing contraceptive services and post-abortion care services in eight provinces by engaging private service providers in rural and urban areas to offer services. It is still currently in operation (BSZ, 2012). Facilities receive reimbursements for the contraceptive services offered.

National programmes specifically to address challenges in contraceptive service services and facilitated contraceptive use are described below.

In July 2012, Zimbabwe invested in a national contraceptive programme that abolished user fees for all services in rural health centres and in some urban health centres under its Results-Based Financing (RBF) programme. However, in urban settings this concession applied only to a selected number of maternal and child health services (including contraceptive services) offered at hospitals and facilities that were covered by the RBF programme (Sithole, 2013). This disadvantaged many women in urban areas who did not enjoy this concession. If they attended most of urban facilities (that did not have a contract with the RBF programme), they had to pay US$25 to register for contraceptive services at these urban clinics. In addition, if contraceptive services were sought from a hospital rather than a clinic not covered by the RBF programme, urban patients had to pay approximately US$50 to first register at public sector hospital before accessing any services and then pay an additional fee for the contraceptive services rendered. This was costly for women especially if the contraceptive methods they sought involved the insertion or removal of Long-Acting Reversible Contraceptives such as sub-dermal hormonal implants and IUCDs , or surgery for sterilisation. (Chipunza, 2015; GDHE, 2017).

To attempt to address urban women's disadvantaged situation in accessing contraception, in 2015 Zimbabwe committed itself to finance and implement the Zimbabwe Family Planning Costed Implementation Plan (ZNFPCIP) 2016-2020. This plan aimed to guide programming, resource mobilization, allocation, and performance measurement, in line with the overarching Zimbabwe National Health Strategy 2016-2020 (ZNFPC, 2015). The plan specified that public sector urban health facilities would no longer have to charge for contraception. This meant that all urban-based women from then on would also have free access to public sector contraceptive services. The plan aimed to reduce women's unmet need for contraception from 13% in 2015 to 6.5% by the end of 2020. Although this target was not met, a reduction in the unmet for contraception of 10% was achieved. The plan further aimed to increase the contraceptive prevalence of use modern methods from 66.8% in 2015 to 68% by 2020. This target was met, with a contraceptive prevalence of 69% achieved. However, a target to decrease the unmet contraceptive need for teenagers and reduce pregnancy for this group from 24% in 2010 to 12% by 2020 was not achieved. Instead a only a 2% reduction in teenage pregnancies was realised (ZNFPC, 2015; FP2020, 2020; MOHCC, 2020).

A policy outside of the control of the Zimbabwean government which has adversely affected its contraceptive service delivery as well those in many other developing countries, is the 'Mexico City Policy', also known as the 'Gag Rule. Initially introduced by the United States (U.S.) Republican administration in 1983, this policy blocked U.S government funding to organisations that provided counseling or referral for abortion services (Grollman *et al*., 2018). Although rescinded under U.S. democratic administrations, the Trump administration reinstated it in January 2017 with an expansion to include withdrawal of funding to organisations also providing contraceptive and reproductive health services (KFF, 2021). This policy left a considerable shortfall in contraceptive funding (Grollman *et al.,* 2018). This cut in donor funding supporting contraception resulted in a reduction in the capacity to offer comprehensive contraceptive services in Zimbabwe.

Due to notable gaps in addressing unmet needs, exacerbated by the constraints placed on funding for contraception programmes imposed by the U.S. limitations mentioned above, Zimbabwe's family planning Programme leaves women at risk of unintended pregnancies and abortions. However, little accurate information is available on the overall prevalence of these two outcomes in the country (Sully *et al*., 2018). In addition, there isn't information available

on women's more recent use of types of contraception, the reasons for their use, non-use and discontinued use and factors associated with these, nationally or in the various districts in the country.

2.12 Chapter summary

The chapter has reviewed literature in the following areas: the benefits of contraceptive use; the types of modern methods of contraception, including short-term methods, long-acting reversible contraceptives, and permanent methods. It has additionally reviewed literature to examine the determinants of contraceptive uptake, which included: factors associated with contraceptive use, non-use and discontinuation of contraceptive use; the preference or avoidance of types of contraceptive methods; service barriers and facilitators to accessing contraception and to the use of particular contraceptive method types, with a particular reference to LARC methods. In addition, it has described the use of contraception in Zimbabwe, Zimbabwe's contraceptive policies, programmes, service delivery and highlighted the impact of reductions in donor funding on contraceptive service delivery. The next chapter focuses on the study's methodology.

CHAPTER 3: METHODOLOGY

This chapter describes the study setting, the research design, the study population, sampling, data collection, management and analysis. It also discusses the validity and reliability of the study and its ethical considerations.

3.1 Study setting

The study was conducted in the Gweru district situated in the southern region of Zimbabwe in the Midlands Province. The Gweru District is a predominantly urban setting with a population of 249 671 according to the most recent 2012 census by the Zimbabwe Central Statistical Office (ZCSO, 2012). This population can be disaggregated into a rural population of 91 806 people: 46 567 females and 45 239 males; and an urban population of 157 865 people: 73 504 males and 84 361 females (ZCSO, 2012). Contraceptive services are offered at 30 out of 38 health facilities in Gweru District, including hospitals and clinics.

The Maternal and perinatal mortality rates in the Gweru district where this study was conducted were 184/100 000 live births and 44/1000 live births, respectively (GDHE, 2017). The health facilities in the district include 16 rural facilities, seven urban and seven peri-urban facilities which includes both primary healthcare clinics and hospitals. The health facilities are operated by at least one nurse offering contraceptive services in addition to other clinical services. Contraceptive methods reported being offered at health facilities in 2017 included the Pill (progestogen-only pills, and combined oral contraceptive pills), condoms, the 3-monthly progestogen injectable contraceptive (DMPA), Implants, the IUCD and female sterilisation (GDHE, 2017).

3.2 Research design

A quantitative, descriptive, cross-sectional study design was used in this study (Campbell, Machin, & Walters, 2007; Setia, 2016). The study survey described the socio-demographic characteristics of all women and service provider respondents. In addition, it determined the following: the number of children of women respondents; respondents' previous unintended pregnancies; awareness of the reasons for contraceptive use; knowledge about contraceptive methods options; their use of a contraceptive method; reasons for non-use and discontinuation of contraception; reasons for satisfaction and dissatisfaction with types of contraceptive methods. In addition, it determined respondents' uptake of a Long- Acting-Reversible

Contraceptive (LARC) method, specifically Implants and IUCD. This included their current, past, and interrupted use of LARC and factors that determined the use, non-use or discontinuation of this contraceptive method. It describes the quality -of -care counselling services provided by the service provider. The accessibility and availability of contraceptive services and method supplies were also investigated. Among the service providers, it described the training status of the nurses in Implant and IUCD insertion and removal, contraceptive methods' availability at facilities, and issues affecting contraceptive service delivery.

3.3 Study population

The study population comprised women attending ten contraception clinics within primary healthcare centres to receive contraceptive services in the Gweru District and nurses who were contraceptive service providers in these same selected health facilities.

Inclusion Criteria: Clients

The inclusion criteria for the client study respondents included:

- Women who self-reported being sexually active, between the ages of 18 and 49 years, attending health facilities that offer contraceptive services in the Gweru District and having lived in the district for the past 6 months.
- Women in stable premarital, marital, and cohabiting heterosexual relationships and sexually active single women.
- Women not intending to become pregnant.

Exclusion Criteria: Clients

The exclusion criteria for client study respondents included:

- Women attending a contraceptive service, but less than 18 years of age. (As they are regarded as children under Zimbabwean Constitution)
- Women who reported not having lived in Gweru District during the past six months and were only attending the health facility for contraceptive services at the time of study
- Clients with mental, emotional, or physical conditions that made it impossible to conduct an interview.

Inclusion Criteria: Health Service Providers

The inclusion criteria for service provider respondents included:

-Nurses who provided contraceptive services at the same selected health facilities in the Gweru District,

Exclusion Criteria: Health Service Providers

The exclusion criteria for respondents included:

-Nurses at health facilities that did not provide contraceptive services at the selected health facilities in the Gweru District.

3.4 Sampling

Sampling Procedures

A multistage sampling method was used, including a first phase of selecting health facilities and a second phase of selecting respondents.

1) Selection of health facilities

A stratified, random sampling method was used to select health facilities. Ten facilities were randomly selected from the overall number of 30 facilities in the district. Stratification of the health facilities was conducted according to their geographic location - urban, rural, and peri-urban. In addition, respondents of different socio-economic statuses were sampled. This selection was to ensure a heterogeneous and representative sample of the population attending the contraceptive services. Facilities were randomly sampled from each stratum, with probability proportion to client volume for contraceptive services and LARC availability throughout the year. Hence four rural facilities, three urban and three peri-urban were selected, to make up the ten facilities.

Table 1:Selection of health facilities

Location of facility	Number of facilities(N=30)	Number to be selected (n=10)
Urban	7	3
Peri-urban	7	3
Rural	16	4

2) Selection of women client respondents

Participant recruitment took place at the ten selected health facilities in the Gweru district. The intention was to recruit an equal number of women respondents (n=38) from each of the 10 selected health facilities.

A systematic sampling procedure was used to select women respondents included in this study. First, the researcher randomly selected a number between one and three. Then, starting with this number, every third woman of childbearing/reproductive age attending the clinic (according to the order of arrival) on the day of the recruitment was approached for potential inclusion in the study. If the inclusion criteria were not met or the woman approached declined to participate, the next woman who met the inclusion criteria was automatically considered. This way of selecting respondents was used to ensure a sufficient number in the different age categories.

3) Selection of health service providers

Ten health service providers (nurses) delivering contraceptive services from the same selected health facilities were sampled purposively for interviews. For example, if only one nurse offered contraceptive services daily at any of the selected facilities, the one nurse on duty was interviewed.

The sample size for women client respondents

The population of women 18 to 49 years in the district among women of childbearing/reproductive age is 55 629 (GDHID, 2018). To determine the sample size for the study, a formula was adapted from an article by (Pourhoseingholi, Vahedi & Rahimzadeh, 2013).

$$n = Z^2 P (1 - P) / d^2$$

Where n is the sample size, Z is the statistic corresponding to level of confidence, P is expected prevalence (that can be obtained from same studies or a pilot study conducted by the researchers), and d is precision (corresponding to effect size).

In this particular case:

- *Z* is the standard normal deviation set at 1.96, which corresponds to a 95% confidence interval.

P =contraceptive prevalence rate (CPR) according to (Zimbabwe National Statistics Agency & ICF International, 2015) in Midlands Province was 0.663.

d = degree of accuracy desired, which is set at 0.05.

Sample size calculation				
Z	P	D	1-P	N
1,96	0,663	0,05	0,337	343,33301

Figure 1:Sample size calculation

To compensate for the non-respondent effect, 10 % was added to the calculated sample size. Thus, the initial sample size was 377 and rounded up to 380.

<u>The sample size for service providers</u>

Since only one service provider (a nurse) was offering contraceptive services at the 10 selected health facilities, these 10 nurses made up the study sample.

3.5 Data collection

Questionnaires for both services provider and women respondents were pretested among few nurses (outside the Gweru district) and a 10% sample of women aged 18 to 49, who were attending facilities offering contraceptive services outside Gweru district and who fulfilled the same inclusion criteria as women who were to be sampled for the study. Interviewers were trained in conducting the information and consent process and administering questionnaires. Standard terms were defined appropriately on the questionnaire to ensure that all interviewers understood the content of the questions being asked.

<u>Data collection from women clients</u>

Data were collected using a structured questionnaire administered using face-to-face interviews with the selected women. The standardized questionnaire was organized into four sections so that specific questions were asked, with close-ended responses for the questions (for details see

appendix 5). The duration of the interviews was between 30 to 45 minutes. The questions were translated into the Shona and IsiNdebele languages, and interviews were conducted in women clients' language of choice.

Data collection from service providers

Data from the services providers were collected using a structured provider questionnaire. (For details, see Appendix 6). The duration of the interviews with healthcare providers was approximately 25 minutes. The questions were translated into the Shona and IsiNdebele languages; however, the nurses preferred being interviewed in English. Standard terms were also defined appropriately to standardize the understanding of interviewers on the items being investigated.

Data entry and management

After completion of the questionnaires by the interviewers, a verification exercise was done to check the completeness of the questionnaires. Due diligence was taken to correct errors in consultation with the data collectors. Data were entered into an SPSS spreadsheet in a protected format with a password. Data cleaning was done to remove all entry errors.

3.6 Data analysis

SPSS software version 21 was used for statistical analysis that included univariate, bivariate and multivariate analyses. Univariate analysis was conducted to describe the demographic characteristics of the women respondents and summarize the responses to contraceptive accessibility, availability, contraceptive service provision, and methods currently in use. Bivariate analysis was conducted to assess if there was an association between sociodemographic factors, other reproductive factors and use and non-use of LARC; and reasons for use of contraception. Question nine in the women's questionnaire, assessed the correctness of responses on the levels of awareness of who should use contraception and on knowledge about what was contained contraceptives (See Appendix 5 question 9 for the detailed questions). All the questions were given the same weight. The scores from correct answers were put into categories as an ordinal scale. For example, if there were greater or equal to 5 correct answers this was classified as a high level of awareness; if there were three or four correct answers this was classified as medium awareness, and finally, a score of less than or

equal to two correct answers was classified as low awareness. As for the analysis of the reasons for discontinued use of contraception and sociodemographic characteristics, the mutually-exclusive reasons for discontinuation were categorized into two. From a study done in 21 low income countries ,the two categories for the reasons for discontinuation includes: those who discontinued while still in need though this need does not refer to unmet need but reasons other than not needing contraception (Staveteig, Mallick & Winter, 2015:10).The variables under 'still in need' includes: Became pregnant while using contraception and failure of the method, came late for the method, partner disapproved ,wanted effective alternative and up to God or fatalistic. Those variables under 'no further need' includes: wanted to become pregnant, stopped using contraception, marital dissolution or separation, difficult to get pregnant and infrequent sex or partner away.

To estimate the association between independent variables (or factors) and the uptake of contraception and long-acting reversible methods of contraception by women of childbearing age, we calculated the odds ratios (ORs), 95% confidence intervals (CIs) and p-values. Non-collinear factors (or variables) with a p-value less than 0.1 from the bivariate analysis were included in the final model to describe the factors influencing LARC use in the Gweru district. These variables were chosen following a stepwise logistic regression approach to build the final multivariate model. Univariate analysis was conducted to describe the demographic characteristics of service providers, training received by the service providers on the implant and IUCD insertion provider's perceptions of women attitudes to IUCD and implant use method availability, and service delivery issues. Data from service providers were analysed separately from that of women clients using SPSS version 21

3.7 Validity and reliability & generalisability

Validity

Validity is defined as the extent to which a concept in a study is accurately measured (Heale & Twycross, 2015a). Reproducibility was ensured by minimizing errors and respecting the sampling procedure explained above. Stratification was used after random selection in selecting facilities to add to the provide generalizability of the results (Murad *et al.*, 2018). Factors that impede validity include information bias, selection bias and confounding. To minimize or eliminate information bias, the following actions were taken; rigorous training of

the interviewers via the use of a pre-tested questionnaire, and issuing written protocols to standardize procedures for data collection amongst the interviewers (Bolarinwa, 2015). In addition, the training minimized inter-observer variation. Recall bias is a systematic error caused by differences in the accuracy or completeness of the recollections retrieved by study respondents regarding events or experiences from the past (Coughlin, 1990). The recall period for those who used LARC was therefore limited to those who had used this method in past six months and were currently using LARC at the time of the interviews. This was in order to minimize recall bias. Selection bias was reduced by the systematic random sampling of health facilities to ensure representatives of the study population and comparatives of respondents. Multivariate analysis was conducted to control for potential confounding (Pourhoseingholi, Baghestani & Vahedi, 2012). In conclusion, validity was assured by selecting the most appropriate study design, methodology, and data analysis.

Reliability

Reliability relates to the consistency of measurement, meaning that the instrument measures the same response each time the test is completed (Heale & Twycross, 2015b). Reliability was assured by using both Shona and Ndebele-speaking interviewers to avoid study errors from inaccurate measurements. We conducted a weekly follow-up of those administering questionnaires to check if they had maintained the necessary quality control standards. Respondents were questioned in privacy, and the interviewers asked questions to minimize cultural concerns by respecting societal norms, diversity, values, and views. The places used for the interview were conducive and similar for all respondents in the different health facilities.

Generalizability

As the women respondents were randomly selected, and the sample size was sufficient, the results of this study can be generalized to women of childbearing/reproductive age in the Gweru District. The results from the women respondents can therefore be generalized to other districts with a similar set up of contraceptive services in other peri-urban, urban and rural areas in Zimbabwe

The study results from the nurse respondents cannot be generalized because the sample size was small. Nevertheless, they provided valuable insights into the availability of contraceptive

methods offered by health service providers, methods' training and issues affecting service provision in similar types of public sector health facilities.

3.8 Ethical considerations

A participant information sheet was given to all potential client study respondents in a language of their choice (Shona, IsiNdebele, or English). The participant information sheet for the health service providers (nurses) was provided to them in English, as this was the language of their choice. The information sheet for all participants (See Appendix 3 and 4 respectively), included information on the research aim; what participant involvement included and, the likely risks and benefits of study participation; as well as their right to privacy. In addition, potential participants were informed that participation in the study was purely voluntary. It was their right to choose to participate, not to participate in the study at all, or to withdraw freely from the research at any stage. It also stated that the respondent's refusal to participate or withdraw from participation would not lead to the denial of any benefits they were usually entitled to get or incur any other negative consequences. (Ringheim & Medicine 1995, WHO 2018). Finally, they were informed that they should participate, they could skip questions they felt uncomfortable answering, and stop the interview at any stage.

Respondents were assured of confidentiality and anonymity by removing information that could be used to identify them. Study identity numbers rather than participant names were used as identifiers on the questionnaires. Written consent was obtained from all respondents before being interviewed for the study. For the consent forms for both women respondents and healthcare providers (See Appendix 1 and 2 respectively), respondents were allowed to keep information sheets if they wished to.

All hard copies of the questionnaires and the consent forms were kept in lockable cabinets. Consent forms were kept separately from the questionnaire so that they were not linked to each other, so as to preserve the anonymity of respondents' responses (WHO 2018). Access to these documents have been restricted to research staff only. These records will be stored for five years and, after that, will be destroyed according to standard ethical procedures.

Ethical approval for this study was obtained from the BMREC (Biomedical Research Ethics Committee) of the University of Western Cape in South Africa (Ethics Reference Number:

BM19/7/3) (See Appendix 7) and the Ministry of Health and Child Care and the Medical Research Council of Zimbabwe. In addition, letters of permission were obtained from the District Medical Officer in charge of Gweru District, where the health facilities are located.

3.9 Chapter summary

The chapter examined the methodology of the study. It focused on the research setting, study design, study populations, sampling methods, and sizes. It also explained the data collection process, entry, management process, analysis and addressed issues of validity and reliability and ethical considerations. The next chapter focuses on the results from the analysis of collected data.

CHAPTER 4: RESULTS

4.1 Introduction

In this chapter the study results are presented. The descriptive results are divided into several sections. These include: the socio-demographic, levels of contraceptive awareness and selected reproductive characteristics of women respondents; contraceptive service access; use of types of contraceptive methods and availability of LARC methods; general reasons for contraceptive use and discontinued use; quality of care by services providers offering LARC; and the levels of satisfaction and reasons for satisfaction or dissatisfaction with LARC methods. The results of bivariate analysis to assess if any variables were significantly associated with reasons for use of and discontinued use of contraception; and specifically with use of LARC are presented. The results of a multivariate analyses to assess which socio-demographic factors remained independently significantly associated contraceptive discontinuation as well as with use of LARC are also presented. In addition, the descriptive results of health workers interviewed at the 10 study institutions, are presented separately, after the presentation of the women respondents' results.

4.2 Socio-demographic characteristics of women respondents

Table 2 shows the socio-demographic characteristics of women respondents. A total of 380 respondents were interviewed and 6 declined study participation. The response rate of women to questions varied depending on the questions asked. The modal age of respondents was 25 to 34 years, with the median age 31 years. Most of the respondents were from rural communities (n=148, 39.8%). The majority of respondents (n=268, 72.6%) were married. Just over half (n=212, 57.8%) had completed secondary schooling as their highest level of education. Over half of respondents (n=128, 55.8%) reported being unemployed. Christianity was the dominant religion reported (n=264, 76.6%), with the largest proportion belonging to the Pentecostal denomination (n=128, 35.8%).

Table 2: Socio-demographic characteristics of women respondents

Variable	N (%)
Age (N=369)	
18-24	85 (23.0)
25-34	171 (46.3)
35-49	113 (30.6)
Marital status (N= 369)	
Single	36 (9.8)
Married	268 (72.6)
Separated/divorced	41 (11.1)
Widowed	14 (3.8)
Cohabiting/living together	10 (2.7)
Education (N= 367)	
None	5 (1.4)
Primary	68 (18.5)
Secondary	212 (57.8)
Tertiary	82 (21.8)
Area of residence (N= 374)	
Rural	148 (39.8)
Urban	114 (30.5)
Peri-urban	111 (29.7)
Religious denomination (N= 358)	
Apostolic	78 (21.8)
Pentecostal	128 (35.8)
Catholic	68 (19.0)
Traditional	23 (8.9)
Protestant	52 (14.5)
Employment (N= 351)	
Formal	67 (19.1)
Informal	88 (25.1)
Unemployed	196(55.8)

Note: In the table above, the difference in the total number of respondents for all the variables except area and religion, reflect missing values for these variables.

4.3 Level of awareness with respect to contraceptive use and reproductive characteristics

The table below shows that 177 (47.8%) and 156 (42,2%) of the respondents, respectively had medium to high awareness of who should use contraception and what the active ingredients of contraceptives are. These are those who got a score of 3 to 4 (medium awareness) and 5 to 6 (high awareness) respectively, to the questions asked. The largest proportion (n=124, 33.2%) of respondents had 3 or more living children, while the lowest proportion(n=58,15.5%) reported having no living children. The vast majority reported having been pregnant in the past 5 years. While most reported that their pregnancy had been planned, a substantial minority (n= 71, 27.8%) reported it as unplanned. Just over a fifth reported that they had become pregnant while using a contraceptive method.

Table 3: Levels of awareness with respect to contraceptive use and selected reproductive characteristics of women respondents

Variable	N (%)
Level of Awareness of contraception and their active ingredients (N=370)	
Low (Score 0-2)	36 (9.7)
Medium (Score 3-4)	177 (47.8)
High (Score 5-6)	156 (42.2)
Number of living children (N= 374)	
0	58 (15.5)
1	85 (22.7)
2	102 (27.3)
3+	124 (33.2)
Pregnant in past five years (N= 303)	
Yes	260 (85.9)
No	43 (14.2)
Pregnancy planned (N= 256)	
Yes	185 (72.3)
No	71 (27.7)

Pregnant on contraception (N= 218)	
Yes	48 (22.0)
No	170 (78.0)

4.4 Contraceptive service access, types of contraceptive methods used and availability of LARC

The study showed that vast majority of respondents (n=324,89%) reported accessing their contraception from public sector contraceptive clinics. The remainder accessed their contraceptiion from public sector hospitals (n=26 ,7.1%), pharmacies (n=6,1.7%), General Practitioners (n=2 ,0.6%) Community-Based Distributors (n=1 ,0.3 %) and village health workers (n=5 ,1.4%). In summary 96.2% accessed their contraception from the public health sector.

Table 4 below shows that the most commonly used contraceptive methods were the Oral contraceptive pill (n=112, 31.7%), followed by the implant (n=98, 27.8%) and the IUCD (n=72, 20.4%). The total number of respondents who reported currently using a LARC method was 170 (48.2%) and 163 (46.2%) reported using a short acting method. Only 10% of respondents reported currently using condoms(n=36). In terms of method availability, respondents reported that they found the implant (n=92, 86.7%) to be mostly available. However only just over half (n=51,53.1%) reported that they found the IUCD to be available.

An encouraging finding was that 75.2% (n=273) of the respondents reported that they did not have to pay for their contraception. However, it was of concern that half of the respondents reported that they required transport to access contraception. This meant they would still incur some costs in accessing contraception.

Table 4: Prevalence of types of contraceptive methods used, availability of LARC and service access costs

Variables	N (%)
Contraceptive method currently in use (N=353)	
IUCD	72 (20.4)
Implants	98 (27.8)
DMPA	30 (8.5)
The Oral Contracepive Pill	112 (31.7)
Condoms	21 (6.0)
Lactational amenorrhea method (LAM)	5 (1.4)
Dual Protection	15 (4.3)
Availability of implants N=224	
Yes	193 (86.2)
No	31(13.8)
Availability of IUCD N=96	
Yes	51 (53.1)
No	45 (46.9)
Payment for contraception (N=363)	
Yes	90 (24.8)
No	273 (75.2)
Affordability of access to contraception (N=352)	
Yes	316 (89.8)
No	36 (10.2)
Used transport to access contraception (N=364)	
Yes	186 (51.1)
No	176 (48.4)

Note: The number of respondents who answered each varied. The lower numbers for some variables are due to missing values.

4.5 General reasons for using contraception and discontinued use of contraception

Table 5 shows the general reasons for using contraception. Half of the respondents (n=194) cited child spacing as the primary reason for using a contraceptive method. The most commonly cited reasons for discontinuation of contraception was to become pregnant (n= 77, 33.2%. Sixty-eight (29.3%) respondents reported that discontinued contraceptive use as they had become pregnant while using contraception or due to contraceptive failure (n=68, 29.3%). Among the least cited reasons for discontinuing use was wanting an effective alternative method (n=2, 0.9%), partner disapproval (n=2, 0.9%) and 'Leaving it up to God' whether they became pregnant of not (n=1, 0.4%).

Table 5: General reasons for using contraception and discontinued use of contraception

Variable	**N (%)**
Reasons for using contraception (N=364)	
Child Spacing	194 (53.3)
Delaying Pregnancy	71 (19.5)
Limiting number of children	60 (16.5)
Continuing Education	24 (6.6)
Career Development	15 (4.1)
Reasons for discontinuing contraceptive use (N=232)	
Wanted to become pregnant Became pregnant while using	77 (33.2)
Contraception/failure of method	68 (29.3)
Stopped using contraception (no specific reason given)	40 (17.2)
Health concerns/side effects	15 (6.5)
Came late for method	10 (4.3)
Marital dissolution/separation	8 (3.4)
Infrequent sex/partner away	6 (2.6)
Difficulty to get pregnant	3 (1.3)
Partner disapproved	2 (0.9)
Wanted a more effective alternative	2 (0.9)
'Up to God' whether become pregnant/fatalistic	1 (0.4)

4.6 Quality of care provided by contraceptive service providers offering LARC

The table below shows the vast majority of respondents reported having been counselled on using a LARC method, including the duration of effectiveness of the method, the procedure for removal of the method and the potential side effects of the method.

Table 6: quality of care provided by contraceptive service providers offering LARC

Variable	N (%)
Counselled on using a LARC method N=189	
Yes	178 (94.2)
No	11 (5.8)
Counselled on the duration of effectiveness of the method N=191	
Yes	181 (94.8)
No	10 (5.2)
Counselled about procdure for removal of the method N=187	
Yes	182 (97.3)
No	5 (2.7)
Counselled about potential side effects of the method N=187	
Yes	171 (91.4)
No	16 (8.6)

4.7 Levels of satisfaction, reasons for satisfaction and reasons for dissatisfaction with LARC methods

As can be seen in Table 7, the study also revealed that 73%, (n=46) of the respondents were very happy with using IUCD while 71%, (n=66) were very happy with the use of implants. The most common reason reported for satisfaction with a LARC method (this applied to both the IUCD and implants) was that they were convenient and long lasting. The other reasons for satisfaction were that they had fewer side effects and allowed for privacy. Very few

respondents were dissatisfied with either the IUCD or implants. The commonest reason for disatification with both LARC methods was opposition from partners. The least common reasons for dissatisfaction (which only applied to the IUCD) were its side effects and a need for a self-control method.

Table 7: Levels of satisfaction, reasons for satisfaction and reasons for dissatisfaction with LARC methods

Variable	**IUCD (N=63) N (%)**	**Implant (N=93) N (%)**
Levels of satisfaction with use of LARC methods		
Very happy	46 (73.0)	66 (71.0)
Somewhat happy	13 (20.6)	24 (25.8)
Somewhat unhappy	3 (4.8)	1 (1.1)
Very unhappy	5 (7.9)	3 (3.2)
Reasons for satisfaction with LARC methods		
Convenient	17 (27.0)	33 (35.5)
Method is long lasting	21 (33.3)	32 (34.4)
Privacy	5 (7.9)	3 (3.2)
Fewer side effects	7(11.1)	10 (10.8)
Reasons for dissatisfaction with LARC methods		
Needed a self-control method	0 (0.0)	1 (1.1)
Opposition from partners	2 (3.2)	1 (1.1)
Side effects	0 (0.0)	1 (1.1)

4.8 Reasons for use and discontinued use of LARC

Table 8 shows the reasons associated with the use and discontinued use of LARC. The most common reason was that both LARC methods offered long term protection against pregnancy. The most common reasons respondents gave for discontinuing both LARC methods were their side effects.

Table 8: General reasons for using and discontinued use of LARC

Variable	IUCD (N=63) N (%)	Implant (N=93) N (%)
Reasons for Use		
Offers longer term protection against pregnancy	55 (79.7)	84 (90.3)
Better choice for child spacing	0 (0)	2 (2.2)
Better effectiveness	6 (8.7)	3 (3.2)
Doesn't requiring daily application	5 (7.2)	2 (2.2)
More comfort and less worries in use	3 (4.3)	2 (2.2)
Reason for stopping the use of the methods		
Needed a self-control method	0 (0.0)	2 (2.2)
Intended to conceive in near future	3 (4.8)	7 (7.5)
Opposition from partners	2 (3.2)	4 (4.3)
Side effects	13 (20.6)	23 (24.7)

4.9 Associations between socio-demographic characteristics and reasons for use of contraception

Table 9 shows the association between respondents' socio-demographic characteristics and their reasons for contraceptive use. The socio-demographic variables which had a significant association with use of contraception were younger age (P<0.01), being married (P<0.01), having at least secondary school education (P<0.01), living in a rural area (P<0.01), being unemployed (P<0.01), having fewer living children (P<0.01), having been pregnant in the previous 5 years (P=0.03), and having wanted a planned pregnancy (P=0.02). Religion had no significant association with contraception use.

Table 9: Associations between socio-demographic characteristics and reasons for use of contraceptive

Variable		Use Of Contraceptive Reason					P-value
		Career N=15	Child spacing N=172	Delaying Pregnancy N=54	Education N=20	Limiting Children N=59	
Age	18-24	5 ((33.3)	37 (21.5)	14 (25.9)	14 (70.0)	6 (10.2)	<0.01
	25-34	6 (40.0)	85 (49.4)	35 (64.8)	5 (25.0)	20 (33,9)	
	35-49	4 (26.7)	50 (29.1)	5 (9.3)	1 (5.0)	33 (55.9)	
Marital Status	Single	5 (33.3)	8 (4.7)	7 (13.0)	9 (45.0)	3 (5.1)	<0.01
	Married	9 (60.0)	149 (86.6)	39 (72.2)	7 (35.0)	29 (49.2)	
	Separated/divorced	1 (6.7)	9 (5.2)	6 (11.1)	0 (0.0)	22 (37.3)	
	Widowed	0 (0.0)	3 (1.7)	0 (0.0)	0 (0.0)	4 (6.8)	
	Cohabiting/living together	0 (0.0)	3 (1.7)	2 (3.7)	4 (20.0)	19 (1.7)	
Education	None	0 (0.0)	1 (0.6)	0 (0.0)	0 (0.0)	1 (1.7)	<0.01
	Primary	0 (0.0)	29 (16.9)	11 (20.4)	3 (15.0)	19 (13.2)	
	Secondary	0 (0.0)	107 (62.2)	40 (74.1)	6 (30.0)	34 (57.6)	
	Tertiary	15 (100)	35 (20.3)	3 (5.6)	11 (55.0)	5 (8.5)	
Area	Rural	6 (40)	77 (44.8)	19 (35.2)	4 (20.0)	16 (27.1)	<0.01
	Urban	9 (60)	27 (15.7)	26 (48.1)	14 (70.0)	19 (32.2)	
	Peri-urban	0 (0)	68 (39.5)	9 (16.7)	2 (10.0)	24 (40.7)	
Religion	Apostolic	2 (13.3)	37 (21.5)	13 (24.1)	1 (5.0)	17 (28.8)	0.17
	Pentecostal	6 (40.0)	64 (37.2)	18 (33.3)	10 (50.6)	18 (30.5)	
	Catholic	6 (40.0)	25 (14.5)	5 (9.3)	5 (25.0)	18 (30.5)	
	Traditional	1 (6.7)	18 (10.5)	6 (11.1)	0 (0.0)	3 (5.1)	
	Protestant	0 (0.0)	28 (16.3)	12 (22.2)	4 (20.0)	7 (11.9)	
Employment	Formal	10 (66.7)	30 (17.4)	9 (16.7)	7 (35.0)	6 (10.2)	<0.01
	Informal	3 (20.0)	37 (21.5)	16 (29.6)	3 (15.0)	17 (28.8)	
	Unemployed	2 (13.3)	105 (61.6)	29 (53.7)	10 (50.0)	36 (61.0)	

Number of living children	0	0 (0.0)	48 (27.9)	17 (31.5)	4 (20.6)	10 (16.9)	<0.01
	1	0 (0.0)	55 (32.0)	14 (25.9)	2 (10.0)	18 (36.5)	
	2	5 (33.3)	51 (29.7)	16 (29.6)	2 (10.0)	27 (45.8)	
	3+	10 (66.7)	18 (10.5)	7 (13.0)	12 (60.0)	4 (6.8)	
Pregnant in past five years	Yes	7 (46.7)	127 (73.8)	37 (68.5)	12 (60.0)	37 (62.7)	0.03
	No	0 (0.0)	21 (12.2)	4 (7.4)	4 (20.0)	14 (23.7)	
Pregnancy planned	Yes	4 (26.7)	90 (52.3)	33 (61.1)	6 (30.0)	18 (30.5)	0.02
	No	3 (20.0)	36 (20.9)	2 (30.7)	6 (30.0)	20 (33.9)	

4.11 Factors associated with discontinued use of contraceptive

A shown in Table 10 below, area of residence (p=0.000) had a significant association with contraception use. Those who resided in rural areas were three times more likely to be still in need of using contraceptives as compared to those who resided in other areas. Women from rural areas were also 5 times more likely to be still in need of using contraceptives as compared to women from peri-urban areas.

Table 10: Factors associated with discontinued use of contraceptives.

Variable	**Contraceptive Use**		**OR (95%CI)**	**P-Value**
	Still in need (N=113) N (%)	No further need (N=157) N (%)		
Area of residence (N=270)				
Peri-Urban	48 (45.2)	3 0(19.1)	0.322 (0.13-0.81)	
Rural	36 (31.9)	91 (58.0)	0.187 (0.08- 0.42)	
Urban	29 (25.7)	36 (22.9)	Reference	0.000*
Age (N=267)				
18-24	22 (19.5)	27 (17.5)	0.77 (0.38-1.58)	
25-34	59 52.2)	76 (49.4)	0.81 (0.46-1.41)	
35-49	32 (28.3)	51 (33.1)	Reference	0.698
Education (N=265)				
None	0 (0.0)	3 (2.0)	0.000 (0.00- 0.00)	
Primary	24 (2.2)	28 (18.4)	0.766 (0.24- 2.50)	

Secondary Tertiary	60 (53.1) 29 (25.7)	91 (59.9) 30 (19.7)	1.308 (0.50-3.40) Reference	 0.624
Marital status (N=269) Not Married Married	 88 (77.9) 25 (22.1)	 120 (76.9) 36 (23.1)	 1.06 (0.59-1.89) Reference	 0.854
Religion (N=258) Apostolic Pentecostal Catholic Traditional Protestant	 23 (21.2) 38 (35.2) 27 (25.0) 7 (6.5) 13 (12.0)	 33 (22.0) 58 (38.7) 21 (14.0) 25 (16.7) 13 (8.7)	 1.22 (0.39- 3.76) 1.10 (0.37-3.29) 0.72 (0.22-2.37) 3.46 (0.88-13.62) Reference	 0.151
Employment status (N=253) Formal Informal Unemployed	 21 (20.2) 29 (27.9) 54 (51.9)	 27 (18.1) 30 (20.1) 92 (61.7)	 0.90 (0.33- 2.50) 0.54 (0.23- 1.26) Reference	 0.346
Number living children (N=267) No children 1 child 2 children 3+	 15 (13.3) 18 (15.9) 38(33.6) 42(37.2)	 14 (9.1) 33 (21.4) 50 (32.5) 57 (37.0)	 0.94 (0.26-3.36) 3.92 (1.38 -11.09) 1.35 (0.61- 2.98) Reference	 0.046*

*Represents significant association with contraceptive use (p value < 0.1)

4.11 Factors associated with use of LARC

The results in a bivariate analysis in Table 11 show the significant associations between the use of LARC and respondents' socio-demographic characteristics with pregnancy and parity. In the bivariate analysis, using LARC compared to not using it, was significantly associated with the following variables: living in rural area as compared to a peri-urban area (OR 2.57, 95%CI: 1.33-4.81, p=0.004); and having 3 children as compared to having only 1 child (OR 2.46, 95%CI 1.20-5.13).

Table 11: Factors associated with LARC use

Variable	LARC use		OR (95%CI)	P value
	Yes (N=126) N (%)	No (N=155) N (%)		
Area of residence (N=126)				
Peri-Urban	25 (19.8)	50 (32.3)	Reference	
Rural	68 (54.0)	54 (34.8)	2.57 (1.33-4.81)	0.004*
Urban	33 (26.2)	5 1(32.9)	1.29 (064-2.62)	
Age (N=126)				
18-24	29 (23.0)	39 (25.2)	Reference	0.633
25-34	63 (50.0)	69 (44.5)	3.40 (0.83-8.50)	
35-49	34 (27.0)	36 (23.2)	8.11 (1.80-60.2)	
Education (N=126)				
Primary	23 (18.3)	36 (23.2)	Reference	0.185
Secondary	78 (61.9)	79 (51.0)	1.54 (0.81-2.99)	
Tertiary	25 (19.8)	40 (25.8)	0.98 (0.45-2.15)	
Marital Status (N=126)				
Married	94(74.6)	110(71.)	0.83 (0.32-2.53)	0.497
Not married	32(25.4)	45(29.0)	Reference	
Religion (N=126)				
Apostolic	27 (21.4)	37 (23.9)	Reference	0.080
Pentecostal	52 (41.3)	55 (35.5)	1.29 (0.66-2.54)	
Catholic	23 (18.3)	21 (13.5)	1.50 (0.65-3.49)	
Traditional	10 (7.9)	7 (4.5)	1.94 (0.58-6.85)	
Protestant	14 (11.1)	35 (22.6)	0.55 (0.23-1.30)	
Employment (N=118)				
Formal	25 (44.6)	31 (20.0)	Reference	0.268
Informal	22 (36.1)	39 (25.2)	0.70 (0.31-1.57)	
Unemployed	71 (48.2)	85 (54.8)	1.15 (0.60-2.23)	

Number of living children (N=126)				
0	15 (30.6)	34 (21.9)	0.76 (0.31-1.83)	
1	22 (36.7)	38 (24.5)	Reference	
2	36 (43.9)	46 (29.7)	1.35 (0.65-2.84)	
3	53 (58.9)	37 (23.9)	2.46 (1.20-5.13)	0.005*
Planned pregnancy (N=82)				
Yes	69 (54.8)	74 (47.7)	2.01 (0.96-4.19)	0.060
No	13 (10.3)	28 (18.1)	Reference	

Note: significant associations are denoted with an asterisk (*) using a p value of <0.05.

4.11 Multivariate analysis of the relationship between contraceptive discontinuation and sociodemographic characteristics

A multivariate analysis of factors influencing contraceptive discontinuation is reflected in Table 12. The model for the multivariate analysis included variables that were shown to be significant in the bivariate analysis in Table 10 above. The only variable that remained independently significantly associated with contraceptive discontinuation among those who are 'still in need' as compared to those with 'no further need', was area of residence. Those in rural areas were more likely than those in urban areas to discontinue contraception (OR 0.33, 95% CI 0.15-0.72). Those with one child are more likely to discontinue contraception. Religion had no independent significant relationship with contraceptive discontinuation.

Table 12: Multivariate analysis of the relationship between contraceptive discontinuation and sociodemographic characteristics

Variable	OR (95%CI)	P-Value
Area of residence		
Rural	0.33 (0.15-0.72)	0.006*
Urban	0.20 (0.10-0.41)	0.00
Age of respondent		
18-24	0.77 (0.31-1.92)	0.575
24-34	0.58 (0.30-1.11)	0.101
Number of Living Children		
No children	0.82 (0.28- 2.43)	0.724
1 child	3.08 (1.20-7.94)	0.020*
2 children	1.06 (0.53-2.12)	0.870
Religion		
Apostolic	0.95 (0.33-2.75)	0.919
Pentecostal	1.14 (0.41-3.15)	0.804
Catholic	0.70 (0.24-2.07)	0.516
Traditional	3.30 (0.94-11.55)	0.062

*Represents significant association with contraceptive use (p value < 0.05)

4.12 Multivariate analysis of the relationship between socio-demographic characteristics and LARC use.

A multivariate analysis of factors influencing the use of LARC is reflected in Table 13. The model for the multivariate analysis included variables that were shown to be significant in the bivariate analysis in Table 11 above. The only variable that remained independently significantly associated with the use was area of residence. Those in rural areas were more likely than those in urban areas to use LARC (OR 1.85, 95% CI 1.05-3.29). Having living children and religion had no independent significant relationship with the use of LARC.

Table 13: Multivariate analysis of the relationship between use of LARC and socio-demographic characteristics

Variable	OR (95%CI)	P value
Area of residence		
Rural	1.85 (1.05-3.29)	0.033*
Urban	1.47 (0.80-2.73)	0.217
Living Children		
0	0.55 (.25-1.17)	0.186
2	0.98 (0.51-1.88)	0.957
3+	1.54 (0.81-2.95)	0.190
Religion		
Catholic	1.82 (0.87-3.88)	0.117
Pentecostal	1.45 (0.79-2.70)	0.236
Protestant	0.71 (0.32-1.55)	0.198
Traditional	2.21 (0.89-5.72)	0.093

*Represents independent significant relationship associated with use of LARC (p value of < 0.05)

4.13 Demographic characteristics of the health service providers, contraceptive method availability and service-related factors.

Table 14 shows the demographic characteristics of the public sector ten health service providers interviewed who worked at health facilities offering contraceptive services. Most of the health service providers (n=6, 60%) were female and all were over the age of 30 years. Half had relevant work experience and either a diploma or degree as a tertiary qualification. All had received training in both implant insertion and removal. A smaller proportion (n=2, 20%) had received training in IUCD insertion and removal. According to the service providers, the sub-dermal implants, (brand named, Jadelle and Implanon) were the only LARC in stock. Health service factors that affected lack of availability of some contraceptive methods was attributed to stock outs (n=5, 50%) followed by the absence of trained personnel (n=4, 40%). All the respondents in this study reported that they were in favour of use of implants while 70% (n=7) reported that they were in favour of use of the IUCD. All the respondents reported that they

were trained in implants insertion and removal. Only 20% (n=2) of the respondents reported having been trained in IUCD insertion and removal.

Table 14: Demographic characteristics of service providers, contraceptive method availability and service-related factors

Variable	Characteristic	N (%)
Age	31-40 41-50 51-60	3 (30) 5 (50) 2 (20)
Sex	Male	4 (40)
Relevant Experience in contraceptive provision	Yes No	5 (50) 5 (50)
Qualification	University Degree Diploma/Certificate	5 (50) 5 (50
Trained in implant insertion	Yes No	10 (100) 0 (0)
Trained in implant removal	Yes No	10 (100) 0 (0)
Trained in IUCD insertion	Yes No	2 (20) 8 (80)
Training on IUCD removal	Yes No	2 (20) 8 (80)
Trained in Counselling	Yes No	9 (90) 1 (10)
Contraceptive methods available in stock	Implants: Jadelle Implanon	9 (90) 8 (80) 1 (10)
Health service-related factors affecting availability of certain methods such as implants and IUCD	Stock outs Absence of trained personnel Work overload for providers	5 (50) 4 (40) 1 (10)

View on women's attitudes towards the use of IUCD	In favour IUCD use Not in favour of IUCD use	7 (70) 3 (30)
View on women's attitudes towards the use of Implant	In favour of Implant use	10 (100)

4.14 Summary

This chapter presented the results and analysis of the interviews with two groups of study respondents, namely women using a contraceptive method and health service providers. The results show that majority of women respondents were married and just about half had completed secondary school. The majority accessed contraceptive services from clinics. Living in a rural area was independently associated with women's use of LARC.

Regarding the results among the service providers, all the health care workers reported that they had been trained in Implant insertion and removal. However, few were

CHAPTER 5: DISCUSSION

Introduction

In this chapter I will discuss of the findings of this study in relation to the literature and the objectives of the study. Comparisons will be made with the results of other studies in countries in Africa and globally. This discussion lays the foundation in answering the research questions: what the reasons for use of contraception were; what factors influenced the uptake of different types of modern methods of contraception; what factors influenced the use or non-use of contraception and specifically of long-acting reversible contraceptives; what factors influenced both contraceptive service accessibility and availability; and to identify gaps that could be used in the monitoring of the status of contraceptive services.

5.2 Socio-demographic characteristics and contraceptive use

In this study just over half (57.8%) of respondents who reported using contraception had completed secondary schooling as their highest level of education. This is lower than another survey conducted in Zimbabwe among users of modern methods of contraception, which found the percentage of contraceptive users have 68% and 75% of secondary school education and tertiary education, respectively (Zimbabwe National Statistics Agency & ICF International, 2015). However, although these percentage in my study is lower than those in the other Zimbabwean study it still confirms that those seeking contraceptive services are likely to have at least secondary school education. This means that in contraceptive services, the greatest need is to target those women with primary education and without education with information on contraception and provision of contraceptive services. Christianity was the dominant religion (76.6%), with 35.8% belonging to the Pentecostal domination and 19.0% being Catholic. Despite Vatican leaders of the Catholic church being opposed to the use of contraceptives, a study by Götmark & Andersson, (2020) found that Catholic congregants still seek contraception. This supports the results of this study in which the commonest reasons to use contraception is child spacing and delaying pregnancy rather than religious beliefs. In this study employment status did not show any significant association with contraceptive use. Similarly, a study conducted in 2013 in Turkey among women above the age of 18 years showed little

difference between use of contraception between women who were employed (60.12%) and those who were unemployed (58.87%).

In a bivariate analysis the study results showed an positive association between use of contraception and women being younger, having at least secondary school education and being pregnant within the past 5 years. These findings make sense as younger women are likely to wish to delay their pregnancies so that they can pursue further education or careers before having children. In addition, those who had been pregnant within the past 5 years were likely to wish to space their pregnancies and not have them too close together. Women with higher education levels were likely to be more knowledgeable about the need for contraception than women with lower educational levels. The reasons for the other associations found - being unemployed, having fewer children and living in a rural area are unclear. These results may be confounded by other factors that were unexplored.

5.3 Contraceptive awareness and contraceptive method failures

The results showed that the largest proportion of respondents had medium awareness of who should use contraception and what the active ingredients of contraceptives. This finding indicates that while levels of contraceptive awareness in this study were relatively good, there is still room for improvement, particularly as this study was conducted among women attending family planning clinics, whose contrceptive awareness could be expected to be even better. A study conducted in Botswana, for example, among female students found that were 100% of the respondent were aware of contraception (Hoque, Ntsipe & Mokgatle-Nthabu, 2013). However, this higher awareness may be due to the fact that the Botswana study was conducted among female students who are better educated.

5.4 Quality of care provided by contraceptive service providers offering LARC

Above 90 % of respondents reported that they had been counselled on using a LARC method, including the duration of its effectiveness, procedures for the removal of a method and the potential side effects women may experience. This is an encouraging finding that shows that counselling is being done as part of the standard operating procedure in family planning. A qualitative study conducted in health facilities in St. Louis and in Memphis among 31 respondents (clients and service providers) showed that while provider technical training in LARC provision was essential, providing thorough evidence-based contraceptive counselling

to contraceptive clients helps overcome clients doubts may have about various contraceptive methods and can have a very positive effect on their willingness to use LARC methods (Politi *et al*., 2016).

5.5 Levels of satisfaction, reason of satisfaction and reason of dissatisfaction

Over 70% of the respondents in this study reported being were very happy with both IUCD and implants as methods of contraception. This is an encouraging finding in terms of promoting uptake of LARC among more women who seek a contraceptive method. In a cross-sectional study, conducted among 417 women attending the family planning clinics in 15 health facilities in Maputo, Mozambique showed that almost all women (98%) were satisfied with the received LARC service and 83% of the women found the waiting time acceptable. The study conducted in Maputo is comparable to the results in my study in that respondents' satisfaction with LARC was also above 90% (Galle *et al*., 2018). Although very few respondents were dissatisfied with LARC as a method of contraception in my study, the commonest reason for dissatisfaction was opposition from the partner. Partner opposition may hinder women's uptake of LARC methods. This highlights the need for male involvement in contraceptive programmes and to address contraceptive issues as couples' issues rather than individual women's issues. A few respondents reported dissatisfaction with LARC due to the methods' side effects and had stopped using these methods for this reason. This is supported by a study conducted in countires Africa, Asia, and Latin America and the Caribbean between 2006 and 2013 which revealed that non-use of LARC arose from concerns regarding side effects and health risks (Sedgh & Hussain, 2014). This emphasises the importance in clinical practice, in discussing with contraceptive clients what side effects they have been experiencing, so that their concerns can be addressed.

5.6 Contraceptive service access, availability, use, and discontinued use of contraceptive methods

The study showed that 89% of respondents accessed services from public sector clinics and 7.1% from public sector hospitals. This is a positive outcome as services at public sector clinics are free and therefore this places less of a financial burden on contraceptive clients. It is evidence of the positive impact of the Zimbabwe Family Planning strategy and the Zimbabwe Costed Implementation Plan (ZNFPC, 2015). A qualitative study conducted in Luweero,

central Region in Uganda among males and females age 18 years and above found when clients needed to pay the cost of contraception this impacted negatively particularly on those in rural communitie's ability to access contraception as they could not afford the expense (Potasse & Yaya, 2021)

General practitioners and pharmacies while providing a service are understandably less likely to have been used by respondents in this study who were seeking contraception. This is likely to be due to the cost involved in accessing these services. A study conducted in the Netherlands among 104 refugees, 58 migrants and 162 native Dutch women from 2010 to 2016, found out that general practitioners were less likely to offer contraceptive services than other health practitioners or services (Raben & Muijsenbergh, 2018). This may also be an additional reason why some women in this study who do have the financial means to pay for contraception, did not report accessing contraception from general practitioners It is unclear why Community-Based Distributors and Village Health Workers were seldom used to access contraception in this study. It would be worth investigating the reasons for this through further research.

While the proportion of respondents accessing free contraception in this study is encouraging, it is concerning that half of the respondents reported that they required transport to access contraception. This means that they would still incur costs to acess contraception. Inaccessible service locations and the cost of transport have been found to affect those that are in need of contraception, especially adolescents who often have limited financial autonomy to pay for transport and service fees (Chandra-Mouli & Akwara, 2020). The implications of these findings are that those in need of contraception may experience difficulties in accessing contraception if transport costs hinder them in being able to reach to contraceptive services. It will be critical to employ outreach services so close this gap.

The findings of a relatively high use of LARC methods in this study is in stark contrast to the 2017 district report for the Gweru District, which found that 90% of women were using short acting methods and only 9 % reported using LARC (GDHE, 2017). The results of a mixed methods cross-sectional study done in Mbarara district in Uganda among 15 to 49 year old women attending family planning clinics and antenatal clinics in 2013 found out that the prevalence of use of short acting methods was 83.9% and that of LARC, 23 % (Tibaijuka et al., 2017b). These findings are also different to the results of my study. This may be due to

methodological differences. If a mixed methods design had used in my study, we could have explored why women were opting to use long-acting methods rather than the short acting methods and examined what factors had assisted in decreasing the bias towards short acting methods and against LARC, found previously in the 2017 Gweru District report (GDHE, 2017). There could be several possible reasons for this variation. The different results with respect to the change in short term methods use and LARC use in this study and the 2017 District report study (GDHE, 2017) may also be in part due to methodological differences that can have a great influence on the research results of studies (Miles, 2017). In addition, this study was a facility- based study as opposed to a community-based study that was conducted for the Gweru District report. This variation might affect the prevalence of the results in the type of method used. It is also possible that there have been strong promotion efforts for use of LARC in contraceptive services in Zimbabwe over the past few years and this may have led to increased use of LARC. It is unknown whether this is the case or not and this highlighs the need for this to be researched.

It is of great concern that only 10 % of women in this study reported using condoms –this included those using dual protection methods. Condoms are important in the prevention of sexually transmitted infections, including HIV and unintended pregnancies as stated in the literature review. A study conducted in four countries namely Kenya ,Tanzania, Nigeria and Zimbabwe among 15-49 years females and 15-54 years males in a 1999 Zimbabwe survey found that 29% of men used condoms in the last intercourse and only 10% of women reported use of condoms (Meekers & Van Rossem, 2005). These results for women are similar to the results in my study. This highlights the importance of much greater efforts to be made to promote condom use in Zimbabwe, with its high adult HIV prevalence of 13.5%. This prevalence is estimated to be higher in adolescents and young women (World Population Review, 2020)

5.7 Reasons for use of contraception

The results showed that approximately half of the respondents cited child spacing as the primary reason for using a contraceptive method,. This is similar to findings of another study done in Zimbabwe, in which 65.7% of respondents cited this same reason for using contraception (Mbizvo & Adamchak, 1991).

5.8 Reasons for use and discontinued use of implants and IUCD

This study showed that 90.3% of the respondents who reported that they were using implants were doing so because they offer long term protection against pregnancy. This was was also a common reason cited by those using the IUCD. The most common reasons for stopping the use of the IUCD and implants were their ide effects. Although LARC methods offer long term protection for those who want to delay pregnancy, they may not be an appropriate choice for all couples if the fear that they will experience negaive side effects.There is need to address the issuse of side effects during pthe provision of contraceptive counselling.

5.9 Determinants associated with use and non-use and discontinuation of use of contraception and LARC

Area of residence (p=0.000) had a significant association with contraception use in this study. Respondents rom rural areas were 5 times more likely to be still in need of using contraceptives as compared to women from peri-urban areas. The factors affecting this need to be further investigated and addressed.

The results showed that using LARC was significantly associated with the following variables: respondents living in rural area 2.6 times more likely to use LARC compared to those living in a peri-urban area; those who had 3 children was 2.5 times more likely to use LARC compared to having only 1 child. This finding is similar to another study that also showed that women who wanted to limit their births were 2.4 times more likely to use LARC than those who reported wanting to have a child soon (Gashaye et al., 2020). The use of LARC was aslo significantly associated with rural areas of residence. The reasons for this were not explored. However, this may be due to the fact that being there was poorer regular access to contraceptive services in rural areas. Travelling to access a contraceptive service in a peri-urban or urban area would incur travel costs. Perhaps women not wishing to become pregnant may be more likely to choose a method that would not involve having to have regular access to a health service close to where they were living. A study conducted by Dynes *et al* (2021), found a shift towards rural areas in terms of the likelihood for both using and discontinuing the use of LARC. The reasons cited included socio-demographic characteristics, opportunities or barriers to

accessing reproductive health services, and beliefs and expectations around reproductive behaviour (Dynes et al., 2012).

5.10 Service provider barriers

The study results showing that only 20% of the service providers were trained in IUCD insertion and removal. This gap in trained IUCD providers is likely affect the use of IUCD. Coupled with providers having reported a problem with stocks outs of this method, this may constitute an important barrier to the provision of this LARC method. In addition a shortage of supplies of the Implant may result in skills attrition in the insertion and removal of this method over time. This could lead to lack of confidence and proficiency by staff originally trained in provision of this method. Even if the supplies of this method were to be improved, this may limit health providers ability to offer this method to women. The few staff trained in insertion and removal of IUCD together with staff reporting stock outs of all LARC methods compromise women's contraceptive method choice (Bruce, 1990; Jain and Hardee, 2018). A qualitative study conducted in Western Kenya among 18-49 years, showed that barriers to LARC removals, including limited-service providers who were trained in removals, discouraged use of LARC and undermined women's contraceptive method choices (Britton *et al*., 2021).

5.11 Study limitations

The study ideally should have covered all 30 health facilities in Gweru District. However due to limited time, finances and unavailability of data in some private facilities we were only able to select a sample of 10 public sector health facilities that offered modern contraceptive services. Nevertheless the number of women respondents enrolled was adequate, even though some respondents did not answer some of the questions. This was either due to a few respondents skipping answering a few question in error or due to doing so, as was their right in terms of the study ethical considerations, as well as due to never having used LARC. The results were interpreted within a context of several limitations. While the sample of 10 services providers was able to provide some insights on the issues of interest it was inadequate to conduct a detailed statistical analysis. Due to the small sample of providers, the confidence intervals were too wide to reach meaningful conclusions (Tipton et al., 2017). However, for other factors the results can be generalisable due to the large respondent sample size.

Limited responses among those who discontinued use of LARC in the past 6 months, made a bivariate analysis on the reasons for discontinuation of LARC and socio-demographic characteristics impossible. However, it was possible to conduct a bivariate analysis on the associations between socio-demographic characteristics and the reasons for discontinuation of the overall use of contraception. There is a need to conduct further research among those using LARC only to understand the specific reasons for discontinuation more fully and the factors influencing their decisions.

Most studies that determine the contraceptive prevalence are not facility based but community based. As our study was a facility-based study there may have been either an underestimation or overestimation in some of the results..

A cross-sectional study design has its own limitations, in that it is unable to infer causality. It is a snapshot at one point in time and cannot capture changes in the contraceptive delivery 'landscape', family planning funding support and training that may have occurred later, after the mini-thesis data collection was complete. As the uptake of modern contraception is not static over time, this too make have changed after the completion of this study. Unlike, the Zimbabwe Demographic Health Surveys that focus on the 15-to-49-year age group, this study was limited to the those aged 18 to 49 years. We considered it impractical to attempt to obtain parental/caregiver consent (that would have been necessary from an ethics perspective), to interview respondents who would be considered minors in Zimbabwe.

In addition, if time had allowed, a mixed method design that would have included qualitative research would have been valuable in providing in depth insights into the issues examined quantitatively. For example, an understanding of the factors influencing the use and non-use of LARC would have been enhanced if the behaviour, attitudes and practices of women and service providers could have been explored in greater depth.

5.12 Chapter Summary

The discussion chapter focused on interpreting the results of Chapter 4 as well as making a comparison with other studies which show similarities or differences. The final short chapter will draw brief conclusions and make recommendations.

CHAPTER 6: CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

The uptake of long-acting reversible contraceptives in Gweru District was slightly lower than that of short acting methods. This is due to a myriad of reasons that may include few trained personnel in their insertion and removal and low availability the IUCD in some public sector facilities and stock outs of both IUCD and Implants in contraceptive services at various points in time. This is mainly due to issues of access and service availability at health facilities. The independently significant predictor of use of long-acting reversible contraceptives was living in rural area. The independently significant determinant of discontinued use of contraceptive was also living in rural area. This needs to be explored further but some possible interpretations have been suggested in the Discussion chapter.

6.2 Recommendations

6.2.1 Recommendations to the policy makers.

Women need to have access to competent health service providers in all facilities that can safely insert and remove LARC. Hence need for training in facilities where there are training gap for staff in LARC service provision However, service provision is also dependent on availability. There is need to ensure that all facilities private and public have access to contraceptive commodities and also strengthening private sector engagements through lucrative public-private partnerships and the scale up community oriented contraceptive services through effective use of community-based distributors and village health workers, with support from non-governmental organizations (NGO). Contraceptive programmes need to uphold women's reproductive autonomy and self-determination. There is also need for empowerment programmes, such as those for population health, contraceptive literacy and education among women of child bearing age that should be better integrated into contraceptive service delivery. Public health programme support and NGO support need to cover all areas peri-urban and urban not necessarily rural areas only. There is need to negotiate with donors for that support to be equitable.

6.2.2 Recommendations for facility level managers

They need to ensure that contraceptives awareness programmes are strengthened and strategies found to extend these beyond health service into the broader communities. In addition, they need to address bottlenecks at public sector hospitals in order to scale up contraceptive uptake; lobby for support for staff incentives; and to organisee new or refresher courses which cover counselling and technical skills for insertion and removal of LARC.

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APPENDICES

APPENDIX 1-CONSENT FORM-WOMEN

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Private Bag X 17, Bellville 7535, South Africa
Tel: +27 21 959 2809 Fax: 27 21 959 2872
E-mail: soph-comm@uwc.ac.za

CONSENT FORM -WOMEN

Title of Research Project: An assessment of uptake of long-acting family planning methods among women of child bearing age in Gweru District, Zimbabwe

The study has been described to me in language that I understand. My questions about the study have been answered. I understand what my participation will involve and I agree to participate of my own choice and free will. I understand that my identity will not be disclosed to anyone. I understand that I may withdraw from the study at any time without giving a reason and without fear of negative consequences or loss of benefits.

Participants name…….
Participants signature…….
Date……

Researcher
I have read this document to the participant, in Shona, Ndebele or English or given this to them to read. I have tried to answer her /his questions to the best of my knowledge.
Date:_____ Signature of Researcher: _____

Biomedical Research Ethics Committee
University of the Western Cape

Private Bag X17
Belleville
7535
Tel : 021 959 4111
E-mail : research-ethics@uwc.ac.za

APPENDIX 2-CONSENT FORM SERVICE PROVIDER

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Private Bag X 17, Bellville 7535, South Africa

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

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

CONSENT FORM –SERVICE PROVIDER

Title of Research Project: An assessment of uptake of long-acting family planning methods among women of child bearing age in Gweru District, Zimbabwe

The study has been described to me in language that I understand. My questions about the study have been answered. I understand what my participation will involve and I agree to participate of my own choice and free will. I understand that my identity will not be disclosed to anyone. I understand that I may withdraw from the study at any time without giving a reason and without fear of negative consequences or loss of benefits.

Service provider's name…….

Service provider's signature…….

Date……

Researcher

I have read this document to the participant, in Shona, Ndebele or English or given this to them to read. I have tried to answer her /his questions to the best of my knowledge.

Date:_____ Signature of Researcher: _____

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APPENDIX 3-INFORMATION SHEET -WOMEN

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INFORMATION SHEET- WOMEN

Project Title: An assessment of uptake of long-acting family planning methods among women of child bearing age in Gweru District, Zimbabwe

What is this study about?

This is a research project being conducted by Dr Shakespear Mureyani, a Master of Public Health student at the School of Public Health at the University of the Western Cape. In the study we are talking to women of child bearing age who are 18 years and above attending health facilities in the district. This will improve our knowledge and understanding of factors that influence use of Long Acting-Reversible Contraception methods within contraceptive services. This so as to improve our understanding on how to provide quality family planning services. We would like to ask your permission to interview you as one of the clients attending this service at this health facility.

What will I be asked to do if I agree to participate?

If you agree to take part in in this research, I or another trained researcher will ask you if are willing to be asked some questions and discuss the issues related to contraceptive use at this service. This will take around 30 to 45 minutes. I/the researcher will speak to you on your own.

Would my participation in this study be kept private?

The researchers will give you a number if they interview you and will not give your name or make known your identity in what you have said, to anyone. Only the researchers will have

access to your consent form and we will keep this separate to the information you have given us.

To ensure your confidentiality, your data will be locked in filing cabinets and storage areas, using numbers only and will be kept on lock cupboards. If we write a report or article about this research project, we will not mention any names or anything else what may identify you.

What are the risks of this research?

There is a risk that you may feel discomfort in answering some of the questions being asked by the interviewer. This will be minimised by not answering questions you don't feel comfortable with.

What are the benefits of this research?

This research is not designed to help you personally, but we hope the result will help to make recommendations on how to ensure that quality family planning services are offered to your expectations.

Do I have to be in this research and may I stop participating at any time?

Your taking part in in this research is completely voluntary. You may choose not to take part at all. If you decide to take part in this research, you can stop taking part at any time along the way. If you decide not to take part in this study or if you stop taking part at any time, this will not in any way affect your care or treatment at this centre.

What if I have questions?

This research is being led by Shakespear Mureyani, an MPH student at the School of Public Health at the University of the Western Cape. If you have any questions about the research study itself, please contact:

Shakespear Mureyani

Cell: +263773967706

Email: mureyanis@gmail.comn

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

Research supervisor: Prof Diane Cooper
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Faculty of Community and Health Sciences:
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Private Bag X17; Bellville 7535

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Dean: Faculty of Community and Health Sciences
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chs-deansoffice@uwc.ac.za

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

Biomedical Research Ethics Committee
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APPENDIX 4 -INFORMATION SHEET SERVICE PROVIDER

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

INFORMATION SHEET- SERVICE PROVIDER

Project Title: An assessment of uptake of long-acting family planning methods among women of child bearing age in Gweru District, Zimbabwe

What is this study about?

This is a research project being conducted by Dr Shakespear Mureyani, a Master of Public Health student at the School of Public Health at the University of the Western Cape. In the study we are talking to service providers who have been working in the family planning services area health facilities in the district. This will improve our knowledge and understanding of factors that influence use of Long Acting-Reversible Contraception methods within contraceptive services. This so as to improve our understanding on how to provide quality family planning services. We would like to ask your permission to interview you as one of service providers offering family planning service at this health facility.

What will I be asked to do if I agree to participate?

If you agree to take part in in this research, I or another trained researcher will ask you if are willing to be asked some questions and discuss the issues related to contraceptive availability, service delivery as well as information about you as service provider. This will take around 20 to 25 minutes. I/the researcher will speak to you on your own.

Would my participation in this study be kept private?

The researchers will give you a number if they interview you and will not give your name or make known your identity in what you have said, to anyone. Only the researchers will have

access to your consent form and we will keep this separate to the information you have given us.

To ensure your confidentiality, your data will be locked in filing cabinets and storage areas, using numbers only and will be kept on lock cupboards. If we write a report or article about this research project, we will not mention any names or anything else what may identify you.

What are the risks of this research?

There is a risk that you may feel discomfort in answering some of the questions being asked by the interviewer. This will be minimised by not answering questions you don't feel comfortable with.

What are the benefits of this research?

This research is not designed to help you personally, but we hope the result will help to make recommendations on how to ensure that quality family planning services are offered to your expectations.

Do I have to be in this research and may I stop participating at any time?

Your taking part in in this research is completely voluntary. You may choose not to take part at all. If you decide to take part in this research, you can stop taking part at any time along the way. If you decide not to take part in this study or if you stop taking part at any time, this will not in any way affect your care or treatment at this centre.

What if I have questions?

This research is being led by Shakespear Mureyani, an MPH student at the School of Public Health at the University of the Western Cape. If you have any questions about the research study itself, please contact:

Shakespear Mureyani

Cell: +263773967706

Email: mureyanis@gmail.comn

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

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Prof Anthea Rhoda
Dean: Faculty of Community and Health Sciences
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This research has been approved by the University of the Western Cape's Biomedical Research Ethics Committee.

Biomedical Research Ethics Committee
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APPENDIX 5-QUESTIONAIRE FOR WOMEN

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QUESTIONNAIRE FOR WOMEN OF CHILD BEARING AGE ON FAMILY PLANNING

Title: An assessment of uptake of long-acting family planning methods among women of child bearing age in Gweru District, Zimbabwe

Introduction

Thank you for agreeing to participate in this study. To remind you, this is a research study about assessment of uptake of contraception methods, including long-acting family planning methods by women of child bearing age. We want to learn more about the factors that influence uptake of various types of family planning methods and experience with different contraceptive methods. The information gathered will be useful to the researchers and policy makers, who are thinking about improving family planning services by offering quality service to women of child bearing age. Today's interview should take about 30-45 minutes

STUDY DETAILS
Interview number ……. **Date of interview…….** **Place……** **Time of interview…….** **Duration of interview…….**

PART 1. 1 SOCIO-DEMOGRAPHIC DETAILS			
2.	Age	18-19……. 1 20-24……2 25-29……3 30-34……4 35-39……5 40-44……6 45-49……7	
3.	Number of living children	0……1 1……2 2……3 3……4	
4	Highest Level of education attained	None……1 Primary ……2 Secondary…….3 Tertiary ……...4	
5	Which religion do you believe in?	Apostolic ……1 Pentecostal …… .2 Catholic ……3 African Tradition …….4 Muslim …….5 Protestant ……6 Other (specify)……7	
6.	Marital Status	Single ……1 Married ……2 Separated/Divorced ……3 Widowed …….4 Cohabiting/living together….5	
7.	What is your employment status?	Formal employment …….1 Informal employment ……2	

		Unemployed ……3	

PART 2. AWARENESS OF CONTRACEPTION AND CURRENT USAGE			
8	How have you heard about family planning services?	Health extension worker …….1 Health Professional……2 Family ……3 Friend/Neighbor ……4 Other (specify)……5	
9	The following statements assess your awareness on FP		
9a	Contraception is used only by married people	True …….1 False……2	
9b	Contraception should be used as long as you are sexually active	True …….1 False……2	
9c	90 % of women who use contraception do not experience unplanned pregnancy	True …….1 False……2	
9d	All contraceptives contain hormones	True …….1 False……2	
9e	Prolonged use of contraception results in sterility	True …….1 False……2	
9f	Irregular contraception will not result in pregnant	True …….1 False……2	

10	Have you ever been counseled on Family planning use, method choice and side effects	Yes……1 No……2	
11	What is the family planning method currently in use?	DMPA…….1 IUCD…….2 Implants Specify Jadelle …. Implanon……3 Emergency contraception ……4 Pills/COCs …….5 Condoms ……6 LAM…….7 Dual Protection ……8	
12	Have you ever used either an IUCD or the Implant in the last 6 months but had it removed?	Yes…….1 No……2 Which one of the two did you use? IUCD…….1 Implant…….2	If NO answer 13
13	Have you ever been pregnant over the past 5 years, if yes?	Was it intended …….1 unintended……2 Were you on contraception when you got pregnant? yes ……1 no…….2	

		State contraceptive you were on if yes……. How do you think it happened? Had stopped using contraceptive for a while…….1 Had come late for method …….2 Failure of method …….3	

PART 3. REASONS FOR ACCESSING CONTRACEPTION			
14.	What are the main reasons for accessing family planning?	Child spacing …….1 Career development …….2 Continuing education …….3 Delaying pregnancy …….4 Limiting number of children……5	
15.	Where would you go to access contraception most of times?	Hospital …….1 Clinic …….2 Specify Urban…. I Peri urban…. ii Rural……. iii GP ……3 Pharmacy ……4 Community based Distributors ...5 Village Health Workers …….6 Other please specify……7	
	Did you pay anything?	Yes …… 1 No ……2	

		If yes, how much?.....	
	Do you transport to access contraception?	Yes …… 1 No ……2 If yes, how much was it?.....	
	Is it affordable to access contraception?	Yes …… 1 No ……2	

PART 4. REASONS FOR DISCONTINUATION OF CONTRACEPTION			
16	Have you ever stopped using any form of contraception, please specify why	Became pregnant while using contraception …….1 If you tick the above, give reason Had stopped using contraceptive for a while…….2 Had come late for method ……3 Failure of method ….4 Wanted to become pregnant….5	

		Husband/partner disapproved ……6 Wanted a more effective method …….7 Health concerns/side effects ……8 Lack of access/too far ….9 Cost too much …….10 Inconvenient to use …….11 Up to God/fatalistic …….12 Difficult to get pregnant ….13 Infrequent sex/husband away …….14 Marital dissolution/separation ……15	

(Only to be asked of those who have used a LARC method: Implant or IUCD in the past 6 months or are current using one)

PART 5. REASONS FOR LARC CHOICE, COUNSELLING, SATISFACTION AND DISCONTINUATION			
17	Why did you choose this method?	Longer protection …….1 Better choice for child spacing ……..2 Better effectiveness ……3 Needed method not requiring daily application …….4 More comfort and less worries during use…….5	
18	Were you counseled about using this method?	YES……1 NO…….2 **If, yes, ask:**	
19	Did the health care worker speak to you about how long this method will protect you against pregnancy?	YES…….1 NO…….2	

20	Did the health care worker speak to you about how this method could be taken out if you wanted to end the method earlier?	YES…….1 NO…….2	
	Did the health care worker speak to you about any side affects you may have with this method?	YES…….1 NO…….2	
	If woman currently using either Implant or IUCD: How happy are you with this method?	Very happy…….1 Somewhat happy……2 Somewhat unhappy……3 Very unhappy…….4	
	For the very happy and somewhat happy	Convenient ……1 Method is long lasting ……2 Privacy …….3 Fewer side effects…….4	
	For the very unhappy and somewhat unhappy	Needed a method they can control themselves …….1	

		Intended to conceive in near future …….2 Opposition from partners to long-term methods ……3 Side effects……4	
	If you are unhappy, are you planning to have it taken out?	YES ……1 NO……2 If no, ask why not…… ……. …….	
	If women used a LARC in the past 6 months but had it taken out early:		
21	Why did you stop using this method?	Needed a method they can control themselves …….1 Intended to conceive in near future……2 Opposition from partners to long-term methods ……3 Side effects…….4	

PART 6. METHOD AVAILABILITY

22	How would you describe the availability of family planning commodities/methods?	For Implants Available……1 Not available…….2 For IUCD Available …….1 Not available …….2	

Thank you for participating, we really appreciate the time you have taken to talk with us.

APPENDIX 6-QUESTIONAIRE SERVICE PROVIDERS

UNIVERSITY OF THE WESTERN CAPE

Private Bag X 17, Bellville 7535, South Africa

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

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

QUESTIONNAIRE ON FAMILY PLANNING SERVICE PROVIDERS

Introduction
Thank you for agreeing to participate in this study. To remind you, this is a research study is to learn more about the uptake of long-acting family planning methods by women of child bearing age. This interview aims to identify the availability of family planning services at health facilities. It will focus on areas that are critical to family planning service availability. I will ask you question about your background demographic characteristics, contraceptive method availability and issues related to family planning service delivery. Today's interview will take 20-25 minutes of your time
Study Details
Interviewer Initials: _____ Study participant no: _____ **Confirm Informed Consent Obtained: Yes ☐ No ☐** **Date: _____/_____/2019** **DAY MONTH**

Time Started: _____: _____ Time Ended: _____: _____

Language interview was conducted: _____

Location of interview: ----------

PART 1. DEMOGRAPHIC CHARACTERISTICS OF HEALTH CARE PROVIDER, LARC TRAINING			
1.	Age	_____	
2.	Gender	_____	
3.	Number of years working in the area of contraception		
4	Qualifications	Diploma/certificate…….7 University Degree……8	
5.	Number of years working in the area of contraception.		

		…….	
6	Received Training in contraception provision specifically	Yes…….1 no……2	
7	How many health workers have been trained and are proficient in general contraception?	……..	
8	How many health workers have been trained and are proficient in Implant insertion?	……..	
9	How many health workers have been trained and are proficient in the IUCD?	…….	
10	Have you received training in Implant and insertion?	Yes…….1 no……2	
11	Have you received training in Implant removal?	Yes…….1 no……2	
12.	Have you received training in counselling on how long the Implant stays in and possible side effects?	Yes…….1 no……2	
13.	Have you received training in IUCD insertion?	Yes…….1 no……2	
14.	Have you received training in IUCD removal?	Yes…….1 no……2	

15	Have you received training in counselling on how long the IUCD stays in and possible side effects?	Yes…….1 no……2	
16	Have you received any on-going or further training? If so, how many times	Yes…….1 no……2 Specify…….	
17	What do you think you clients' attitudes? are to using the IUCD?	Like it …….1 Don't like it ….2 Can you give reasons for your answer? ……	
18	What do you think your attitudes are to using the Implant?	Like it …….1 Don't like it ….2 Can you give reasons for your answer? …… ……	

	METHOD / COMMODITY AVAILABILITY		
19.	How would you describe the availability of family planning methods/commodities?	For Implants High …….1 Just right …2 Low ……3 N/A…….4	

		For IUCD High ……1 Just right …….2 Low …….3 N/A…….4	
20	Which contraceptives are available in stock?	IUCD ……1 Implants ……2 Specify Jadelle ……. i Implanon ……. ii Both……. iii	
21	How often do receive orders through the existing supply chain	For Implants Monthly …….1 Quarterly …….2 Biannually …….3 Annually …….4 N/A ……5 For IUCD Monthly …….1 Quarterly …….2 Biannually …….3 Annually …….4 N/A ……5	

	CONRACEPTIVE SERVICE DELIVERY ISSUES		
22.	What health service-related factors affect availability of family planning service?	Stock outs ……1 Absence of trained personnel….2 Work overload for providers …….3 Attitude of health workers….4	
23.	If you have stock outs, is it easy to do an emergency order	Yes ….1No ……2	

Thank you for participating, we really appreciate the time you have taken to talk with us.

APPENDIX 7-ETHICS APPROVAL-UNIVERSITY OF WESTERN CAPE

UNIVERSITY of the WESTERN CAPE

OFFICE OF THE DIRECTOR: RESEARCH
RESEARCH AND INNOVATION DIVISION

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10 October 2019

Dr S Mureyani & Prof D Cooper
School of Public Health
Faculty of Community and Management Sciences

Ethics Reference Number: BM19/7/3

Project Title: An assessment of uptake of long-acting family planning methods among women of childbearing age in Gweru District, Zimbabwe.

Approval Period: 30 August 2019 – 30 August 2020

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

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

Please remember to submit a progress report in good time for annual renewal.

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

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

BMREC REGISTRATION NUMBER -130416-050

FROM HOPE TO ACTION THROUGH KNOWLEDGE