EXPLORING THE KNOWLEDGE, ATTITUDES AND PRACTICES REGARDING THE INTRAUTERINE CONTRACEPTIVE DEVICE (IUD/IUCD) AMONG FAMILY PLANNING ACCEPTORS AND PROVIDERS IN KHOMAS REGION, NAMIBIA

A THESIS SUBMITTED IN PARTIAL FULFILMENT

OF THE REQUIREMENTS FOR THE DEGREE OF

MASTER OF PUBLIC HEALTH

OF

THE UNIVERSITY OF NAMIBIA

BY

Frieda Ndeshipanda Taapopi

(9001301)

August, 2016

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Main Supervisor: Dr. K. Shikongo

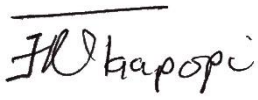
Co-Supervisor: Mrs. L. Van der Westhuizen

DEDICATION

This work is first and foremost dedicated to the Almighty God for giving me the knowledge, wisdom, understanding, courage and a clear direction for my life. Secondly, I dedicate this work to my late father, Ileni Efraim Mbidi for inculcating in me a passion for education and to my mother, Ndilimeke Kaunapawa Mbidi for her continuous prayers and for being the greatest influence in my life. Thirdly, I dedicate this work to my dearest husband Sakaria Taapopi, for his continuous encouragement, inspirations and support, and to my children, Ndeyanale and Kaunapawa Taapopi and my guardian children, Mateus Taapopi and Monika Sakaria for their understanding and cooperation, and to all family members and friends who have rendered me their support in one way or the other during my studies. Fourthly, my sincere thanks go to Hileni Akwenye for being of great assistance to me during my studies. Last but not least, I dedicate this work to all women and couples in Namibia who believe in the use of family planning and contraceptive methods as an important way to contribute to their family's welfare and to the economic development of our beloved country, Namibia.

DECLARATION

I, Frieda Ndeshipanda Taapopi, declare hereby that this is a true reflection of my own research, and that this work, or part thereof, has not been submitted for a degree in any other institution of higher education.



Date: 06/06/2016

Frieda Ndeshipanda Taapopi

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ABSTRACT

The intrauterine contraceptive device (IUD/IUCD) is a safe, effective and long-acting reversible contraceptive method commonly used worldwide. Despite its proven safety, efficacy and its reversibility, the IUD/IUCD is one of the contraceptive methods that is under-utilized in many African countries, including Namibia.

The purpose of this study was to explore and describe the knowledge, attitudes and practices regarding the IUD/IUCD among family planning (FP) providers and acceptors in Khomas Region, Namibia.

A non-experimental, quantitative, exploratory, descriptive study was conducted among 582 FP acceptors and nine (9) FP providers at nine (9) health facilities. For this study, two (2) structured interview questionnaires were developed, one for the FP acceptors and one for the providers, as tools for data collection.

A probability sampling technique was applied to select the sample for the FP acceptors which was calculated using the Epi Info version 7, Statcalc, based on a P=50%, 4% margin of error and 95% confidence level. No actual sampling was performed for FP providers, thus the researcher studied the whole population, those who were providing FP services during data collection. The data were entered, cleaned and analyzed using Epi Info version 7 software.

Overall, about half of the FP acceptors did not know about the IUD/IUCD, while almost all knew the injectables and oral contraceptive pills. All FP providers knew about the IUD/IUCD, but some have never seen it. Neither the FP acceptors, nor the providers had adequate specific knowledge content of the IUD/IUCD. Nevertheless, the attitude of the FP acceptors and providers was generally positive to the potential use of IUD/IUCD in the future.

This study therefore recommends to the Ministry of Health and Social Services and its partners, sensitization and education of potential users about the IUD/IUCD in order to increase demand. Similarly, the FP providers should be equipped with the necessary specific knowledge and skills on the IUD/IUCD in order to be able to counsel and provide the IUD/IUCD to potential users.

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CHAPTER 1

INTRODUCTION AND BACKGROUND

This chapter aims to describe the orientation to the study, state the problem and significance of the study, and define key concepts used in this study.

1.1 BACKGROUNG OF THE PROBLEM

Contraceptives only became widely available after the 1960s (Greener, 2012). However, their use has been growing in almost all countries of the world, although at different rates (UN, 2013). Contraceptive methods are grouped into two types, modern and traditional. Modern methods include female and male sterilization, the pill, the intrauterine contraceptive device (IUD/IUCD), injectables, implants, male condom, female condom, lactational amenorrhea method (LAM) and emergency contraception. Traditional methods include the rhythm method (periodic abstinence) and withdrawal (MoHSS & ICF International, 2014).

At the International Conference on Population and Development (ICPD) of 1994 in Cairo, Egypt, governments, including Namibia, committed themselves to the call to provide a wide range of contraceptive method mix. A wide range of contraceptive method mix helps women and couples to meet their different family planning needs. Contraceptive preferences vary according to the stage in the reproductive cycle and reflect differing needs based on age, levels of exposure to risk of pregnancy, parity, economic activity and sociocultural norms. Having the option of many different contraceptive methods allows women and couples to select a method based on their specific needs and preferences (Okonofua, 2012).

While there is no ideal contraceptive method mix, there is also no gold standard for a balanced contraceptive method mix. However, in some countries, the distribution of contraceptive use across methods gives an indication that at least women or couples have some degree of choice. In contrast, there may be a cause of concern when data in some other countries is giving an indication that the majority of contraceptive users relies on one of two methods (Bertrand, Sullivan, Knowles, Zeeshan & Shelton, 2014).

Contraceptive prevalence is a measure of the proportion of women who are currently using, or whose sexual partner is currently using, at least one method of contraception, regardless of the method used. It is usually reported for married or in-union women aged 15-49 years (UN, 2013). The contraceptive prevalence for any modern contraceptive method is estimated at 57% globally. There are some geographic variations in the contraceptive prevalence rates, with 69.8% in North America, 61.2% in Asia, 66.6% in Latin America and the Caribbean, 58.8% in Europe, 55.1% in Oceania and 25.8% in Africa. In general, Africa records the lowest contraceptive prevalence rate compared to the rest of the world (UN, 2013). Namibia has a contraceptive prevalence rate of 50% for any modern method (MoHSS & ICF International, 2014).

Worldwide, estimates for the use of the IUD/IUCD stands at 13.9% among married couples. Regionally, the highest prevalence rate for the IUD/IUCD (17.5%) is observed Asia, followed by Europe (11.9%) and lowest in Latin America and the Caribbean, North America, Africa and Oceania with 6.5%, 4.7%, 4.6 and 1.8% respectively (UN, 2013). In Namibia, the use of the IUD/IUCD has remained stagnant at 1% for almost four decades. This implies under-utilization of the IUD/IUCD as compared to the use of injectables which is at 21% and the male condom at 19%.

In addition, the use of pills, female and male sterilization, and all other modern methods are below 5% (MoHSS & ICF International, 2014).

The IUD/IUCD is a modern, long-term/acting, safe and very effective contraceptive method which mainly aims at preventing fertilization and it is a suitable contraceptive method for almost all women including adolescents. The IUD/IUCD is the most suitable method for women and couples who have a desire to prevent pregnancy, delay child bearing, limit child birth for a period of more than 2 years or who ultimately want to stop child bearing. It also has the potential to reduce unintended pregnancy after unprotected sexual intercourse when inserted within 120 hours, while contraceptive pills should be taken within 72 hours after unprotected sexual intercourse. Thus, the IUD/IUCD is found to be an effective alternative to hormonal emergency contraceptive pills (WHO/RHR, & John Hopkins Bloomberg School of Public Health/CCP, Knowledge for Health Project, 2011).

1.2 STATEMENT OF THE PROBLEM

The use of IUD/IUCD as a contraceptive method in Namibia is only 1%, while injectables stand at 21% and male condoms 19% and the use of pills, female and male sterilization, and other modern methods are all below 5%. In some regions, the use of the IUD/IUCD is almost non-existent as it ranges between zero percent in the Zambezi to 1.3 percent in the Khomas region. Even though the IUD/IUCD utilization rate in Khomas is slightly higher at 1.3% as compared to other regions, it is still very low (MoHSS & ICF International, 2014). The low utilization rate of the IUD/IUCD is an indication of under-utilization of the method despite its proven high efficacy and safety, while the majority of the FP acceptors rely on the injectables and condoms.

Therefore the questions that arose in the mind of the researcher were: What are the reasons behind the low utilization of IUD/IUCD as a contraceptive method in Namibia despite its proven efficacy? What are the knowledge, attitudes and practices regarding the IUD/IUCD among family planning acceptors and providers in the Khomas Region, in Namibia?

1.3 PURPOSE AND OBJECTIVES OF THE STUDY

The purpose of this study was to explore and describe the knowledge, attitudes and practices regarding the IUD/IUCD among family planning providers and acceptors in Khomas Region, Namibia.

The specific objectives of the study were to:

- Explore and describe the knowledge and attitudes of family planning acceptors regarding the use of the IUD/IUCD.
- Explore and describe the knowledge, attitudes and practices of family planning providers regarding the provision of the IUD/IUCD.
- Recommend actions that the MoHSS and its development partners; namely the United Nations Population Fund (UNFPA) and the World Health Organization (WHO) could take to improve use of IUD/IUCD as a contraceptive method in health facilities in Khomas Region.

1.4 SIGNIFICANCE OF THE STUDY

This study is geared to provide valuable insights into the knowledge, attitudes and practices regarding the IUD/IUCD among FP acceptors and providers in Khomas Region. It could thus

inform the FP programme to develop appropriate interventions related to FP acceptors' and providers' needs. These interventions could include but are not limited to training of the FP providers and the development of information, education and communication (IEC) materials for use by FP acceptors.

1.5 DEFINITION OF KEY CONCEPTS

The following definitions are used in this study:

Family planning:

The concept family planning (FP) refers to a conscious effort to limit or space the number of children couples or families want to have through the use of contraceptives (MoHSS & ICF International, 2014, p.71).

Family planning providers:

According to the Ministry of Health and Social Services (MoHSS, 2012) this concept refers to nurses and doctors who are providing family planning and contraceptive information, supplies and commodities to clients.

Family planning acceptors:

The Ministry of Health and Social Services (MoHSS) (2012) refers to users of family planning as family planning acceptors. In addition, in this study the concepts acceptor and client are used interchangeably.

Intrauterine contraceptive device (IUD/IUCD):

This is a small T-shaped or horseshoe-shaped device made of plastic usually with one or two strings attached on it which is inserted by a trained family planning provider into a woman's uterus to prevent pregnancy. IUDs/IUCDs may be copper-bearing or levonorgestrel (hormone) – releasing (MoHSS, 2012; Nguyen, Park, Le & Ngo, 2011; WHO/RHR, & John Hopkins Bloomberg School of Public Health/CCP, Knowledge for Health Project, 2011). This study focused only on the copper-bearing IUD/IUCD, since it is the only one available in the public health facilities in Namibia (MoHSS, 2012).

Knowledge:

Knowledge refers to "facts, information and skills acquired through experience or education" (The oxford dictionaries, 2015). In this study, the concept knowledge refers to the awareness of the family planning methods. Furthermore, it also refer to the specific knowledge content of the contraceptives, in terms of the mechanism of action, characteristics, side-effects, benefits, eligibility (or who can use the method) and myths.

Attitudes:

Attitude refers to "a settled way of thinking or feeling about something" (The oxford dictionaries, 2015). In this study, attitudes, refers to beliefs and perceptions of family planning providers and acceptors in relation to the use of family planning and contraceptive methods.

Practices:

Practices refer to components that support quality family planning services (MoHSS &ICF Macro, 2010). In this study, practices refer to those commonly accepted actions of the family planning providers that support quality family planning service provision.

1.6 SUMMARY

Although contraceptives have been in existence since the 1960s in almost all countries of the world, the use of the IUDs/IUCDs has lagged behind especially in Africa as compared to other parts of the world. Worldwide estimates have indicated that China has the majority of women who use IUD/IUCD as their method of contraception as compared to sub-Saharan Africa and the Oceania which is below 0.5 percent. In Namibia, the use of IUD/IUCD has remained stagnant at 1% for three decades, even though research has described the IUD/IUCD as a modern, long-lasting/acting, safe and very effective and the most suitable contraceptive method for almost all women including adolescents.

In view of this, it was essential for this study to explore and describe the knowledge, attitudes and practices regarding the IUD/IUCD among family planning providers and acceptors in Khomas Region, in Namibia. Key concepts used in this study were defined. A detailed discussion of the available known literature on the subject will follow in Chapter two.

1.7 OUTLINE OF CHAPTERS

Chapter 1 presented an introduction and background to the study. It described the background of the study problem, stated the problem, purpose, objectives and significance of the study. The key concepts used in the study were also dealt with in this chapter.

Chapter 2 covers information of literature reviews of studies done on the same topic. The literature study has comprehensively described the recent findings and conclusions of the previous studies done with regard to knowledge, attitudes and practices regarding the intrauterine contraceptive device (IUD/IUCD) among FP acceptors and providers as well as contextual factors.

Chapter 3 contain the study design the research methods that were employed to collect the data and how the data were analyzed. This part also described the population of the study and the research ethical standards and principles that were followed during the study.

Chapter 4 presents statistical analysis of the study results in the form of tables and charts.

Finally, **Chapter 5** discusses the implication of the findings and outlines the recommendations and conclusions of the study.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

This chapter presents the literature reviewed on knowledge, attitudes and practices regarding the intrauterine contraceptive device (IUD/IUCD) among family planning providers and acceptors. According to Brink, Van der Walt & Van Rensberg, (2012, p.71), literature review is "an organized written presentation of what has been published on a topic by scholars". Existing available literature on the history and benefits of FP and contraceptive methods, types of FP and contraceptive methods with a great emphasis on the IUD/IUCD, knowledge, attitudes and practices regarding the IUD/IUCD and contextual factors on FP and contraceptive choices and provision are described in this chapter.

2.2 HISTORY OF FAMILY PLANNING AND CONTRACEPTION

It is documented throughout history that choosing when to start a family is a shared responsibility of societies. Couples were instructed during the ancient Egypt era (circa 1850 B.C) on ways to avoid pregnancy. Vaginal barrier methods were used, in the form of a soft wool poultice filled with bread dough, gum, acacia tree bark, fruit-nut mixture, and crocodile dung to mention a few. Animal intestinal membranes were also used as condoms to prevent pregnancy. Even the Bible has described coitus interruptus (withdrawal of the penis before ejaculation) as a FP method which was used by a brother who did not want to bear children for him. In addition, the Greeks became aware of abortion in the fourth century B.C, by using herbs such as wild carrots and fennel to stimulate abortion. Furthermore, a diaphragm in the form of half sliced lemons, were scooped out

and place over the cervix to prevent the sperms from entering the uterus in order to prevent pregnancy (Anderson, 2005).

It was during the mid- to late 1800s when renewed interest developed in barrier methods of contraception. Condoms made from rubber and contraceptive sponges became available on the market. In the year 1886, a drug or medicine known as Quinine which was effective in treating malaria was introduced for inducing abortion by inserting it into the vagina as a suppository. Induced abortion is probably the most widely used method of child spacing in the world but has remained very controversial too. With a few exceptions, most countries do not recognize induced abortion as a FP method. Abortion is legal in the United States as a result of the United States Supreme Court ruling in 1973. Moreover, the concept of IUD/IUCD was known in the ancient Egypt but was used to prevent conception in camels, a practice that continued in northeastern Africa for some years. However, the use of the IUD/IUCD by humans as a method of contraception was introduced in 1909 and the copper IUD/IUCD was found to be an effective method in the 1930s (Anderson (2005).

In the early to mid-twentieth century Margaret Sanger became influential in advancing the reproductive rights agenda and opened the first FP clinic in 1916, though this was shut down by the police soon after it was opened. That is when the issue of reproductive rights was brought to the attention of the public. Margaret Sanger founded the Planned Parenthood Federation of America in 1942, where she spearheaded fundraising for research that led to the development of the first contraceptive pill. This marked the birth of the era of modern FP in 1960. The injectable long-acting implants were developed in 1966 while the modern injectable contraceptives were

developed in 1992. Whereas the female condom got approval for use by the Food and Drug Administration (FDA) in 1993, the emergency contraceptive pills were approved in 1997. Traditional family planning methods were widely known and used worldwide. Similarly, modern methods were available globally, although not accessible to a large number of persons who desired them (Anderson (2005).

Before the International Conference on Population and Development (ICPD) at Cairo, Egypt, in 1994, world leaders were concerned about reducing population growth, maternal morbidity and mortality through family planning. After the ICPD the concern shifted to a rights-based approach to family planning while de-emphasizing demographic goals as the driver of the family planning programme. The ICPD positioned voluntary family planning as a fundamental human right of sexually active couples and placed women at the centre stage of human development. That created a justifiable foundation for women and couples to access safe, affordable and effective modern contraceptives. Since the ICPD, the evidence has shown an increase in contraceptive use and method mix worldwide between 1990 and 2013. However, the increase in contraceptive use in Africa is less compared to other regions. Moreover, there are variations worldwide both in terms of contraceptive prevalence and the types of methods used (Okonofua, 2014).

The first National Policy on Family Planning for Namibia was produced in 1995, just one year after the ICPD in 1994. The protocols on FP for operational level health care providers (guidelines) were subsequently produced in 1996. However, the two documents, the guidelines and the policy were replaced in 2012 and 2013 respectively. The FP programme in Namibia is based on the policy statement, which states that “all persons who are sexually active, regardless of age or marital status,

shall have the right to be fully informed about available FP options and methods, and shall have the right to receive the FP method of their choice (MoHSS, 2013, p.18).

There is no ideal family planning or contraceptive method, because each method has advantages and disadvantage (Picavet, Leest & Wijsen, 2011). However, there is a safe and effective method for every woman that can enable her to protect her health and that of her children (Bertrand et al., 2014). Therefore, it is a key objective of the family planning programmes to ensure that every individual and couple have information and access to a wide range of safe and effective contraceptive methods to enable them to exercise free and informed reproductive choices (UN, 2013).

Despite the growing contraceptive technology that has made it possible for women and couples to choose when to start having children, the number and spacing of their children, there is still a long way to go when it comes to the use of the IUD/IUCD in Africa (Bertrand et al., 2014). Africa region has the second lowest rate of 4.6% for IUD/IUCD utilization after Oceania with 1.8% in the world. In sub-Saharan Africa only 0.7% women use an IUD/IUCD and in Southern Africa the use of an IUD/IUCD is about 1.2% (UN, 2013). The IUD/IUCD was first introduced as part of the National Family Planning programme in Namibia in 1997, seven years after the country gained its independence in 1990, in effort to expand the contraceptive method mix. But in spite of its early introduction, only 0.6% women in Namibia in general and 1.3% women in Khomas region use an IUD/IUCD as their method of contraception (MoHSS, 2013).

2.3 BENEFITS OF FAMILY PLANNING AND CONTRACEPTIVES

The benefits of FP and contraception ranges from improved health for the mother and child, to increased education, women empowerment, financially secured families and households to stronger national economies (UNFPA, 2014). The benefits can be categorized into health and non-health benefits which are described below.

2.3.1 Health benefits

FP and contraceptives methods have numerous health benefits for women and children. FP and contraceptives have the potential to prevent pregnancy-related health risks in women as a result of unsafe abortion and unsafe deliveries. It also contributes to the reduction of maternal and child mortality and morbidity (Countdown 2015 Europe, 2012). Furthermore, it prevents high-risk pregnancies among adolescents by allowing them to delay pregnancy and childbirth which may put them at risk of health problems and even death. Older women over the age of 35 years are regarded to be at high risk of maternal morbidity and mortality and evidence has proven that contraception can reduce that. These include women who have given birth to more than four children or births that are spaced too close to each other. Evidence suggests that children that are spaced close to each other are often at risk of malnutrition and death. Additionally, it allows the mother more time to breastfeed her baby, thus improving infant health. The mother also gets more time to recover physically and nutritionally between births by practicing adequate spacing. Moreover, it helps to prevent unintended pregnancies among HIV infected women thereby reducing the number of HIV-positive births (WHO, 2015).

2.3.2 Non-health benefits

The benefits of FP and contraceptive methods go beyond the health of the individual women and children. Societies, families and households greatly benefit from the use of FP and contraceptives. Societal benefits due to the use of family planning include increased economic growth through higher productivity as it creates greater ability for women to engage in income-generating activities or get employment. It is also a good investment for governments, as the demand for government expenditure on education, health, housing, water and sanitation, among others decreases. FP and contraceptive use improves environmental sustainability since a family with fewer children would need less food, land, and water and puts less pressure on a the already available scarce resources (Singh, Darroch, & Ashford, 2014).

The families and households can reap benefits of increased savings and household assets. Parents have more time to give attention and parental care for each child; they can afford quality health care, good nutrition, and education of each child and fewer children become orphaned (Singh et al., 2014).

Women who use FP and contraceptives have less fear about unplanned pregnancies, have greater self-esteem and decision-making power and have more time to spend with their children. Women and girls have greater educational and employment opportunities, and have greater chances and opportunities to participate in activities of the society (Singh et al., 2014).

2.4 TYPES AND CLASSIFICATION OF FP AND CONTRACEPTIVE METHODS

FP and contraceptive methods are classified under two categories, namely; modern- and traditional methods. Modern contraceptive methods include: combined oral contraceptives (COCs), progestin-only pills (POPs), progestin-only injectables, IUD/IUCD, lactation amenorrhea method (LAM), male condom, female condom, voluntary female sterilization (tubal ligation), voluntary male sterilization (vasectomy) and emergency contraception. Traditional family planning methods include: fertility awareness methods (FAMs), withdrawal (Kei, Ndwiga & Okong'o, 2015) and several other traditional methods where women or couples reported using herbs or strings (MoHSS & ICF International, 2014). Some literature refer to traditional methods as natural methods of FP and include LAM (Callahan & Caughey, 2013), while others categorize LAM as a modern contraceptive method (MoHSS & ICF International, 2014).

Contraceptive methods are furthermore categorized either as temporary or permanent and short-term or long-term/acting. Modern contraceptive methods such as the pills, injectables and condoms are short- term temporary methods, while the IUD/IUCD is a long-term, temporary or reversible method. Male sterilization (vasectomy) and female sterilization (tubal ligation) are the only permanent contraceptive methods and are surgical. Sterilization is considered to be the most suitable method for women and couples who want to stop child bearing or who have completed their family size (MoHSS, 2012; WHO/RHR & John Hopkins Bloomberg School of Public Health/CCP, Knowledge for Health Project, 2011). On the other hand, traditional methods are also categorized as short-term and temporary but the least effective family planning methods. These family planning methods require proper training for women and couples to be able to use them effectively. They also highly require husband/partner's cooperation for it to work and

therefore might not be popular among contraceptive users (MoHSS, 2012; WHO/RHR & John Hopkins Bloomberg School of Public Health/CCP, Knowledge for Health Project, 2011).

The World Health Organization (WHO) has classified family planning and contraceptive methods into four tiers of effectiveness, with the degree of effectiveness decreasing as the tier increases. The first-tier methods include female sterilization (tubal ligation) and male sterilization (vasectomy) and the IUD/IUCD. The second-tier includes the pills and injectables; condoms are in the third-tier, while the traditional methods are in the fourth-tier. Both private and public health facilities in Namibia provide a variety of family planning and contraceptive methods of all tiers. However, this study will only focus on modern contraceptive methods that are provided at public health facilities, which are, oral contraceptive pills, injectables, condoms, IUD/IUCD and sterilization. (Hoffman, Schorge, Schaffer, Halvorson, Bradshaw, Cunningham, & Calver, 2012). The different types of the contraceptive methods are briefly described below.

2.4.1 Injectables

Injectable contraceptives are safe and highly effective (97%) at preventing a pregnancy. They are available in formulations of either progestin-only or combined formulation that contain a progestin and estrogen. The progestin-only injectable is effective for three months, while, the combined injectable is effective for one month. In Namibia, only two types of injectable contraceptives are available namely, the depot medroxyprogesterone acetate and norethisterone enanthate. Each of these injectables contains a progestin similar to the one in a woman's body. The depot medroxyprogesterone acetate is administered every 12 weeks while the norethisterone enanthate is administered every 8 weeks (Tindall, Sedrak, & Boltri, 2013).

2.4.2 Oral contraceptives

The oral contraceptives, like the injectables, are available in formulations of either progestin-only or combined, containing both progestin and estrogen. A range of combined and one progestin-only oral contraceptive pill formulation are available at public health facilities in Namibia. Pill users are required to swallow one tablet on a daily basis at about the same time. The pill is reported to be 92% effective at preventing pregnancy. In addition, it is advantageous because it does not necessitate an interruption of sexual activity and it helps to regulate the menstrual cycle (Mckinney, Murray, James, & Nelson, 2013).

2.4.3 Condom

Condoms are available for men and women, the male condom and female condom (or Femidom as commonly known), respectively. A male condom is a thin, stretchable sheath made from latex rubber that is used to cover the penis before sexual intercourse. It provides a barrier that prevents the sperms from entering the vagina thus preventing a pregnancy. The female condom is a latex or rubber that can be inserted into the vagina to prevent the sperms from going through into the cervical canal and uterus. The male condom is 85% while the Femidom is 79% effective at preventing a pregnancy. It is only the condoms from all available contraceptive methods that protect against sexually transmitted infections including HIV, hence providing dual protection (Caroll, 2012; Perry, Hockenberry, Lowdermilk, & Wilson, 2013).

2.4.4 Sterilization

Both men and women can be sterilized on voluntary basis by undergoing a surgical procedure. The sterilization procedure for women is called bilateral tubal ligation and for men it is called vasectomy. To be sterilized means that the individual will be biologically incapable of reproducing

after a successful sterilization procedure (Hoffman et.al 2012). Sterilization for men and women is one of the most effective (99.9%) permanent contraceptive methods although it carries a small risk of failure (WHO/RHR, & John Hopkins Bloomberg School of Public Health/CCP, Knowledge for Health Project, 2011). Failure of sterilization is most often due to error during the procedure or rather a natural rejoining of the tubes (Housman, & Odum, 2015).

2.4.4.1 Vasectomy

Vasectomy involves cutting the vas deferens and tying them up. By this, the sperm are prevented from entering the semen**.** Vasectomy is not entirely effective immediately after the procedure, it may take up to three months. Hence, clients are counselled to continue using another contraceptive method for the first three months after the procedure (Mckinney et al., 2013).

2.4.4.2 Bilateral tubal ligation

Bilateral tubal ligation procedure involves cutting the fallopian tubes and tying them up. This prevents the eggs that are released from the ovaries to enter the tubes and meet with the sperm. It is more complicated that the vasectomy but both are highly effective (99.8%). Failure of the method can happen due to surgical error or spontaneous rejoining of the tubes (Housman, & Odum, 2015).

2.4.5 Emergency contraception

Emergency contraception is available in the form of oral pills and the copper IUD/IUCD. For the pills to be effective the woman should take them as soon as possible after the unprotected sexual intercourse but within 72 hours. The copper IUD/IUCD should be inserted within 120 hours after unprotected sexual intercourse. Emergency contraception is not recommended for use as a regular

FP or contraceptive method. However, the copper IUD/IUCD may be left inside the uterus to continue as a regular contraceptive method if the client desires a long-acting reversible contraceptive method (Alden, Lowdermilk, Cashion, & Perry, 2014).

2.4.6 The IUD/IUCD

It is documented in the literature that the first IUD/IUCD was used by Arabs and Turks camel drivers, whereby a stone or stones were inserted into the uterus of the camel to prevent it from getting pregnant while undertaking long journeys. The IUDs/IUCDs for humans has been available for over 100 years in many countries of the world. In 1909, Dr. Richard Richter, from Braslaw, Poland (while in Germany) invented a flexible ring made from silkworm gut or suturing material which was inserted into the uterus of a woman for pregnancy prevention. During the same year, Dr. Ernst Gräfenberg, a Gynecologist from Germany not only used silkworm gut but also used silver wire which contained copper as a way to modify the ring that was made by Richter (Bullough & Bullough, 2014; Guillebaud & MacGregor, 2012).

In 1934, Tenrei Ota from Japan, and many others also started to experiment with the IUDs/IUCDs in the 1940s and more effective antibiotics were developed to reduce the risk of infection. Furthermore, in 1958, Lazar, C. Margulies consulted with colleagues where he proposed the use of a plastic device in efforts to try and find a better IUD/IUCD that will eliminate the risk of infection. The plastic type of IUDs/IUCDs were experimented in Israel and in the United States of America. Again, with the plastic device difficulties were experienced with the removal of the ring type IUDs/IUCDs. Therefore, Jack Lippes, an American, decided to attach some kind of strings to the end of the IUD/IUCD that goes down through the cervix for easy removal. By 1974, about

twenty different types of IUDs/IUCDs were being produced which comprised the copper and levonorgestrel-progestogen IUDs/IUCDs which were among the new devices that were put on the market (Bullough & Bullough, 2014). Modern IUDs/IUCDs have been in existence for more than half a century (Takeshita, 2012). The IUDs/IUCDs are obtainable in different shapes and types in many countries of the world, and are used by more than 180 million women (Zastrow & Kirst-Ashman, 2015). Increased problems of hemorrhage and pelvic infection among users of the IUDs/IUCDs were experienced and as a result they were withdrawn from the market, especially in the United States of America in 1986 (Jones, 2012).

In the United Kingdom (UK), for example, there are over 10 different types of copper IUDs/IUCDs accessible. The term 'device' is only used when they refer to the copper IUD/IUCD, while, the levonorgestrel-progestogen IUD/IUCD is referred to as a 'system'. However, the World Health Organization (WHO) refers to both the copper and levonorgestrel-progestogen IUDs/IUCDs as devices. They are one of the long-acting, reversible and highly effective modern contraceptive methods found in the world (WHO/RHR, & John Hopkins Bloomberg School of Public Health/CCP, Knowledge for Health Project, 2011; Zastrow & Kirst-Ashman, 2015). Currently, in the United States of America and in Namibia, there are mainly two types of IUDs/IUCDs that are widely used, namely; the levonorgestrel-progestogen and copper (TCu 380A) releasing IUD/IUCD. These IUDs/IUCDs are made from plastic and are placed in a woman's uterus for contraception purposes (Zastrow & Kirst-Ashman, 2015). Many of the earlier devices were also used for the purpose of stimulating abortion in addition to contraception (Guillebaud & MacGregor, 2012; Jones, 2012).

The IUD/IUCDs of the 1960s were made of polyethylene impregnated with barium sulphate to enable them to be viewed through radiography. Later on in the 1980s, plastic made IUDs/IUCDs which contained a larger amount of copper came to exist. The copper containing IUDs/IUCDs were designed to minimize the frequency of side-effects that were experienced with the use of earlier plastic devices (Goldman, Troisi, & Rexrode, 2012). For the purpose of this study, only the copper IUD/IUCD is described in detail as it is the only one available in public health facilities in Namibia.

2.4.6.1 The Copper IUD/IUCD

This is a small, flexible plastic device wrapped with copper wires around it. It is inserted into the uterus of a woman through her vagina and cervix (Haler, 2012). Only a health care provider who is specifically and properly trained will be able to correctly insert and remove an IUD/IUCD (WHO/RHR, & John Hopkins Bloomberg School of Public Health/CCP, Knowledge for Health Project, 2011). There are various types of Copper IUDs/IUCDs, namely; the Cu-T 380A, Cu-T 220C, multiload Cu 250 and Cu-T 375 which were all introduced in the 1980s (Goldman et al., 2012). Unlike in many other countries, in Namibia, the affordability of the IUD/IUCD by clients is not a cause of concern, because all the FP and contraceptive methods including the IUD/IUCD, supplies, commodities and services are provided free of charge at public health facilities (MoHSS & ICF Macro, 2010).

It is not enough for clients to only be aware of the IUD/IUCD as a method of contraception; however, they also need to have specific knowledge content of the IUD/IUCD to enable them to make an informed choice. Specific knowledge content of the IUD/IUCD includes the mechanism

of action, benefits, characteristics, side-effects and the management thereof. In addition it is important for clients to know who can use the IUD/IUCD and be able to dispel the myths that are associated with the IUD/IUCD (Picavet et al., 2011).

2.4.6.2 Mechanism of action of the Copper IUD/IUCD

The mechanism of action of the copper IUD/IUCD is still questionable about how it really works, however, it is primarily known to cause damage to the sperm in order to prevent fertilization, meaning that it has spermicidal effects (Goldman et al., 2012; Schwatz & Kempner, 2015). It is also understood that it creates a sterile inflammatory response inside the uterus which immobilize and cause destruction to the sperm (Callahan & Caughey, 2013; Carroll, 2012). In addition to this, the copper IUD/IUCD damages the inner lining of the uterus (endometrium) which is thought to prevent the egg from attaching itself to the endometrium, (in case an egg is already fertilized) to prevent pregnancy, although not supported by scientific evidence (Zastrow & Kirst-Ashman, 2015). Unlike other modern contraceptive methods, such as pills and injectables, the copper IUD/IUCD does not prevent ovulation (Callahan & Caughey, 2013).

2.4.6.3 The effectiveness of the Copper IUD/IUCD

The IUD/IUCD is a safe and one of the most effective long-acting reversible contraceptive methods. The pregnancy rate for women using the IUD/IUCD is less than 1 pregnancy per 100 women over the first year. This is about six to eight per 1,000 women. A small risk of pregnancy still continues after one year of using the IUD/IUCD (Carroll, 2012). There are a number of copper IUDs/IUCDs on the market, which can be used for between 5 and 10 years. However, several studies have documented that the Copper-IUD/IUCD (TCu-380A) can be effective for up to 12 years (Zastrow & Kirst-Ashman, 2015; Haler, 2012), although it is labelled to be used for up to 10

years (Carroll, 2012; WHO/RHR, & John Hopkins Bloomberg School of Public Health/CCP, Knowledge for Health Project, 2011). The copper IUD/IUCD is 99.2% effective, second to the male and female sterilization which are 99.9% effective (Zieman & Hatcher, 2012; WHO/RHR, & John Hopkins Bloomberg School of Public Health/CCP, Knowledge for Health Project, 2011). The injectables are 94%, pills 91%, male condom, 82%, while the female condom is 79% effective (Zieman & Hatcher, 2012).

2.4.6.4 Benefits and advantages of the Copper IUD/IUCD

The copper IUD/IUCD has known health and non-health benefits. The known health benefits of the copper IUD/IUCD is that it helps to protect against the risk of pregnancy and may also help to protect against cancer of the lining of the uterus, the endometrial cancer. Moreover, the IUD/IUCD is economical in the sense that a woman who had an IUD/IUCD inserted does not have to make frequent visits to health facilities (Haler, 2012), unlike with pills and injectables. This is a non-health benefit as it saves the user time and money in the process (Carroll, 2012).

The Copper IUD/IUCD contains no hormones, thus it is safe for use by women who are breastfeeding, because it does not cause any harm to the breast milk supply (Mackin, 2015). It has the ability to provide for emergency contraception within 5 days of unprotected sexual intercourse or in the case where a contraceptive method has failed. It is also the only emergency contraception method that can be continued for long-term used if the woman wants to do so (Chelmow, Isaacs & Carrol, 2015). Although some literature has reported moderate pain with the removal of the IUD/IUCD (Carroll, 2015), it is easily removed in a consulting room by pulling on the strings that

are attached to it (WHO/RHR, & John Hopkins Bloomberg School of Public Health/CCP, Knowledge for Health Project, 2011).

2.4.6.5 Characteristics of the Copper IUD/IUCD

Some literature describe the copper IUD/IUCD as a very safe, reversible, long-acting and highly effective contraceptive method as compared to devices that were developed before it (McVeigh, Guillebaud, & Homburg, 2013; Briggs, Kovacs, & Guillebaud, 2013). Other characteristics that makes the copper IUD/IUCD attractive to potential users is the documented evidences that it does not interfere with sex and the immediate return of fertility after it is removed. However, just like most of the contraceptive methods, the copper IUD/IUCD too does not protect against Sexually Transmitted Infections (STIs) including HIV (Carroll, 2015; WHO/RHR, & John Hopkins Bloomberg School of Public Health/CCP, Knowledge for Health Project, 2011).

2.4.6.6 Side-effects and disadvantages of the Copper IUD/IUCD

The IUDs/IUCDs that existed in the 1909s to 1970s were made from silkworm catgut ring polyethylene. The Dalkon Shield IUD/IUCD was associated with increased risk and incidences of STIs and PID, high rate of expulsion, cramping pains, menstrual bleeding changes, and high pregnancy rates. Additionally, it caused increased incidences of septic spontaneous abortion among young women, changes in sexual behavior where users failed to use additional protection, such as condom and oral contraceptives, and some women even died of severe side-effects. However, in the 1980s, safer IUDs/IUCDs made of plastic containing a larger amount of copper were introduced (Fritz & Speroff, 2011).

Even though the copper IUD/IUCD is found to be safer and beneficial than the earlier IUDs/IUCDs, it has some side-effects and disadvantages too. The common side-effects and/or disadvantages reported among users of the copper IUD/IUCD are related to changes in bleeding patterns that occurs usually during the first three to six months after insertion (Alexander & Alexander, 2014; MoHSS, 2012). These are prolonged and heavy menstrual bleeding, irregular menstrual bleeding, lower abdominal cramps and excessive pain during menstrual bleeding (Thurston, 2013; Klostranec, 2012).

2.4.6.7 Who can use the Copper IUD/IUCD

The Copper IUD/IUCD is regarded as safe for almost all women. Therefore, it can be used by women who have or have not had children, married or not married, women of the reproductive age (15-49) including adolescents. Additionally, even those women who just had an abortion or a miscarriage (if there is no evidence of infection) and breast-feeding women can have a copper IUD/IUCD inserted. Furthermore, the copper IUD/IUCD can be recommended to women who do hard physical labor, those with histories of ectopic pregnancy, pelvic inflammatory disease (PID) and vaginal infections. Also those women who have anemia and those infected with HIV or on antiretroviral therapy and are doing well can have a copper IUD/IUCD inserted (WHO/RHR, & John Hopkins Bloomberg School of Public Health/CCP, Knowledge for Health Project, 2011).

In contrast, some of the literature have reported that the copper IUD/IUCD cannot be used by women with a history of PID and ectopic pregnancy, or by women infected with HIV/AIDS (Colyar, 2015), and women who have just had an abortion or given birth recently (Colyar, 2015; Monga & Dobbs, 2011). Moreover, some literature have reported that women with a current STI

or PID, and women with a history of STIs and/or those who have more than one sexual partner should not use IUD/IUCD (Glass & Cash, 2014). Furthermore, it is reported that women currently having an undiagnosed vaginal bleeding, endometrial and cervical cancer, known malformation of the uterus or distortion of the cavity, and those who are allergic to copper or suffering from a malignant trophoblastic disease cannot use an IUD/IUCD (Colyar, 2015; Monga & Dobbs, 2011).

2.4.6.8 Myths associated with the Copper IUD/IUCD

Several myths surrounding the IUD/IUCD also play a role in making the method unpopular to potential users. This is mainly attributed to the legacy left by earlier IUDs/IUCDs, especially the Dalkon Shield that have remained stuck in the minds of providers and women, which caused increased risk of pelvic infection, abortion and even death among users (Mazza, 2011). Today, scientific evidence has proven that the IUD/IUCD "rarely lead to PID because PID in IUD/IUCD users is related to unhygienic practices of providers at insertion. It also does not increase the risk of contracting STIs, including HIV, and do not make women infertile as claimed by some people (Schwartz & Kempner, 2015).

In addition, the IUD/IUCD does not increase the risk of miscarriage when a woman becomes pregnant after it is removed, do not cause birth defects, do not cause cancer, do not move to the heart or brain, do not cause discomfort or pain for the woman during sex and it substantially reduce the risk of ectopic pregnancy (MoHSS, 2012). IUDs/IUCDs are also not intended to cause abortion (Callahan & Caughey, 2013). Despite that the current scientific evidence suggests that the copper IUD/IUCD is safe for almost all women, the legacy of the IUDs/IUCDs has make users to be more cautious about the method (Schwartz & Kempner, 2015).

2.5 FAMILY PLANNING AND CHOICE OF CONTRACEPTIVE METHOD

It is generally understood that the provision of a wide range of contraceptive methods is a key element for quality FP services and has a great influence on raising the overall level of contraceptive use (Singh & Darroch, 2012; Ross & Stover, 2013). A wider contraceptive option also helps women to prevent unintended pregnancy more effectively and allows them to easily change from one method to another when they are not happy with the method they are using (UN, 2013). Thus, lack of wider contraceptive options deprive women and couples of their human right to informed choice which is entrenched in the Programme of Action of the ICPD 1994 of Cairo, Egypt (Okonofua, 2014). Since women are faced with a wide range of contraceptive options with various attributes to consider they need to be well-informed on specific knowledge content of each method (Wyatt et al., 2014).

2.6 KNOWLEDGE, ATTITUDES AND PRACTICES REGARDING THE IUD/IUCD

The knowledge, attitudes and practices of FP acceptors and providers may have an influence on the use of the IUD/IUCD.

2.6.1 Knowledge of the Copper IUD/IUCD

A study on knowledge and attitudes about long-acting reversible contraception among Latina women who desired sterilization conducted in Texas found that awareness among women was relatively low at 51% for the copper IUDs/IUCDs (White, Hopkins, Potter & Grossman, 2013). This was consistent with the findings from a randomized intervention study to promote IUD use among women of reproductive age (18-45 years) in Cape Town, South Africa which reported low awareness (46%) of the IUD/IUCD, among women (Trasada, 2013). In a cross-sectional study on

prevalence and factors affecting use of long-acting and permanent contraceptive methods conducted in Jinka town of southern Ethiopia, it is reported that 72% of the women of reproductive age had awareness of the IUD/IUCD. The same study also found low (52.2%) knowledge among women regarding the effectiveness of the IUD/IUCD, and only 32.6% of the women knew that the copper IUD/IUCD can be effective for over ten years (Mekonnen, Enguselassie, Tesfaye & Semahegn, 2014).

The most recent demographic and health surveys data of sub-Saharan African countries has revealed that awareness of the IUD/IUCD among women of the reproductive age (15-49) was very high (99.4%) in Egypt in 2014, 68.3% in Siera Leaone in 2013, 60% in Togo in 2013-14 and in Zambia in 2014. In contrast, awareness of the IUD/IUCD among women in Liberia, the Gambia, Nigeria, and the Democratic Republic of Congo was only 43.5%, 39.5%, 31.8% and 24%, respectively. In Namibia, only 51.4% of women were aware of the IUD/IUCD (USAID, 2014).

A qualitative, descriptive study on all-time low utilization of intrauterine contraceptive device as a birth spacing method in the district Rawalpindi in Pakistan, reported negative impressions about the IUD/IUCD by most FP clients who have never used it before. Their impression was mainly due to fear caused by the spread of rumours or myths in their community, such as, that nulliparous women and those with a history of ectopic pregnancy cannot use an IUD/IUCD. Other rumours that they had heard were the beliefs that an IUD/IUCD can cause abortion, ectopic pregnancy, or it may rust in a woman's body and that it interferes with sex. Additionally, they also heard rumours that the IUD/IUCD may move to other parts of the body such as the brain and heart (Khan & Shaik, 2013).

A review of published literature of 1982 to 2012 reported misconceptions of the effectiveness and safety of the IUD/IUCD among health care providers. The review also revealed misconceptions among the health care providers regarding women who can use an IUD/IUCD (Buhling, Zite, Lotke, & Black, 2014). Another study which reviewed worldwide use of intrauterine contraception also found misconceptions among the health care providers that the IUD/IUCD is not suitable for a nulliparous woman and that insertion is difficult and painful. Also the health care providers held beliefs that IUD/IUCD causes PID and infertility (Buhling, Hauck, Dermout, Ardaens & Marions, 2014).

Results from a recent cross sectional survey on knowledge and perceptions of the intrauterine device among FP providers in Nepal has revealed high knowledge (above 70%) on a couple of combined questions regarding the mechanism of action of the IUD/IUCD. About 60% of the FP providers did not know that an IUD/IUCD can be inserted 7 days immediately post-partum. Similarly, knowledge of which type of women are eligible for the IUD/IUCD was low, as the providers who responded correctly to a couple of combined questions were below 50% (Chakraborty, Murphy, Paudel & Sharma, 2015).

A recent study on knowledge and perceptions of the intrauterine device among family planning providers conducted in Nepal, found that the majority of the FP providers (89.6%) knew the primary mechanism of action of the Copper IUD/IUCD. Furthermore, it was found that only less than half of the FP providers (48.1%), knew that the Copper IUD/IUCD is highly effective in preventing pregnancy (Chakraborty et al., 2015). Additionally, FP providers knew that women with the following conditions, namely, history of ectopic pregnancy (1.2%), history of PID

(33.3%), or who are HIV positive (35.9%) and/or on antiretroviral therapy (36.8%) can safely use the Copper IUD/IUCD. Moreover, many of the FP providers knew that women who are not married and those who are breastfeeding can safely use the Copper IUD/IUCD (47.0% and 55.9%, respectively) (Chakraborty et al., 2015). It was also found that the majority of the FP providers knew that a woman with or without a child can have an IUD/IUCD inserted, for example, whether they have one child (98.3%) or four children (96.8%). Also, 48.1% also knew that a woman who has no children (nulliparous) can safely have an IUD/IUCD inserted (Chakraborty et al., 2015).

2.6.2 Attitudes

The attitudes of FP providers may be influenced by lack or limited specific knowledge content, clinical and counseling skills regarding the IUD/IUCD (Buhling, Hauck, Dermout, Ardaens & Marions, 2014). A descriptive research was conducted in a state hospital in Turkey on preferences and related factors for postpartum contraception in pregnant women. The results indicated that the IUDs/IUCDs were the most preferred contraceptive method for use in the future among pregnant women (Yielmazel & Balci, 2013).

In a semi-structured study on knowledge and attitudes about long-acting reversible contraception (LARC) among Latina women in El Paso, Texas, Mexico who desired sterilization, the majority of the women reported concerns about changes in menstrual bleeding, doubt of its effectiveness, other health risks, and about the insertion and removal procedures. Specifically, the concern of changes in menstrual bleeding raised by women who have used the Copper IUD/IUCD greatly affected the attitude of the women who have never used it before. This has resulted in lack of interest among the majority of women to use the IUD/IUCD in future (White et al., 2013).

However, after a short description about the IUD/IUCD was given a few women reported that they would consider the use of the Copper IUD/IUCD only if it were available for free or cheaper. Those who showed interest for future use most frequently mentioned the effectiveness and convenience being the key reasons when compared to the methods they were using at the time (White et al., 2013). Nineteen percent specified that they would consider the use of IUD/IUCD in future and an additional 25% of women specified that they would use it in the future if they knew more about them (Ragland, Payakachat, & Dajani, 2014).

The attitude of women regarding contraceptives in general may also be influenced by their sexual partners and religious beliefs. The responsibility of contraception is reported to be more of a woman's business than the man (Steinmetz & Sussman, 2013). The negative attitude towards the IUD/IUCD was more evident in women who demonstrated lack or limited knowledge of the method (Meskele & Mekonnen, 2014). In addition, disapproval by husbands (3.3%) and religion (2.7%) led to about 13.6 percent of women not choosing any contraceptive method (Yilmazel & Balci, 2013).

A prospective, descriptive, analytic study on introduction of post-abortion contraception, prioritizing long-acting reversible contraceptives, in the principal maternity hospital of Gabon was conducted in 2014. The study findings revealed that more than 90% of women accepted a modern method of contraception after abortion but only 4.9% accepted a LARC method (IUD/IUCD/implant) (Mayi-Tsonga, Obiang, Minkobame, Ngouafo, Ambounda, & De Sousza, 2014).

Results from a study in Pakistan suggest that training providers on intrauterine contraceptive device insertion and removal procedures alone does not have a consistent positive effect on lowering barriers to its recommendation, unless the training is combined with evidence-based knowledge content. The majority of providers hold negative beliefs that the method is contraindicated for some women which is contrary to the recommended evidence-based guidelines of WHO (Agha, Fareed & Keating, 2011).

Findings from nationally representative surveys in southern Africa (South Africa and Zimbabwe) on provision of LARC in HIV-prevalent countries revealed that the provision of LARC methods was low but about one-half of the providers in both countries had a desire for training which indicates a positive attitude. One-third said they would provide the IUD/IUCD to women if they were readily available. Less than 5% said they would provide the IUD/IUCD to women who are HIV positive or at risk. The vast majority (82%) of providers felt the IUD/IUCD was underutilized by women/patients (Morse, Chipato, Blanchard, Nhemachena, Ramjee, McCulloch, Blum, Salleby, & Harper, 2013).

Evidence-based training of nurse practitioners was found to be rare, but desired by many, as reported in a national survey of nurse practitioners on counselling and provision of long-acting contraception in the United States of America (Harper et al., 2014). Another survey on understanding the barrier and myths limiting the use of intrauterine contraception in nulliparous women among European/Canadian healthcare providers revealed that many healthcare providers held negative attitudes towards the IUD/IUCD as they believed that the method is not suitable for many categories of women contrary to the WHO medical eligibility criteria guidelines.

Respondents in different countries reported that they would not consider an IUD/IUCD for a nulliparous woman (34-69%), PID (14-83%), insertion pain (7-60%), insertion difficulty (25-83%) and infertility (6-55%) (Buhling et al., 2014).

2.6.3 Practices

A large body of available literature has presented evidence on knowledge, attitude and practices regarding the use of the IUD/IUCD among the FP acceptors and providers. However, little has been documented on practices, such as; greeting, providing a chair to clients, privacy and confidentiality issues, and other relevant practices that are supporting quality FP service provision. Instead, most studies have focused on practices of potential and FP clients in relation to the use of FP and contraceptive methods including the IUD/IUCD. Only the Service Provision Assessment (SPA) conducted in over ninety developing countries worldwide has documented evidence on components that support quality FP services that includes privacy, confidentiality and visual aids (MoHSS & ICF Macro, 2010).

Family planning itself is often a sensitive sexual and reproductive health issue to discuss, which requires FP providers to render services in an environment that ensures privacy and assure confidentiality (MoHSS & ICF Macro (2010). Therefore it is very important that FP providers establish and maintain a trustful and open relationship by ensuring privacy and confidentiality of clients (Gavin et al., 2014).

The results of the SPA have shown that almost all (95%) health facilities in Namibia counsel clients under conditions that guaranteed privacy. Observed FP consultations that assured clients of confidentiality was 44%. In addition, it was reported that 85 percent of health facilities in Namibia

had visual aids for the FP acceptors education in the family planning consultation room. The visual aids included posters and/or samples of methods. Visual aids are also valuable items that can be used during FP counseling (MoHSS & ICF Macro, 2010).

Greeting is generally perceived as a way of welcoming a client to any service provision point. It enhances the interaction between the provider and the client as it connects them emotionally. The GATHER model was developed to guide the provision of FP and contraception, of which the first letter represents greeting. In a study on quality of FP services in primary health centers in southwest-Ethiopia, through provider observation, only 65.3% of the FP providers greeted their clients, which is inconsistent with the GATHER (Greet, Ask, Tell, Help, Explain, Return) model guideline (Tafese, Woldie, & Megerssa, 2013).

Before the FP visit, clients might have a lack or limited information about different types of contraceptive methods. Therefore, FP providers should inform clients of the availability of a wide range of contraceptive methods to enable them to make an informed choice that responds to their needs and preferences. It is appropriate to mention to clients even methods that are not available that might be available at other health facilities. For methods that might not be available at the health facility, a strong referral link is necessary to ensure that clients obtain their preferred method somewhere else (Gavin et al., 2014). The role of FP providers is critical in increasing the use of the IUD/IUCD by providing information that is accurate and in line with the current evidence-based guidelines (Callegari, Darney, Godfrey, Sementi, Dunsmoor, & Prager, 2014).

Furthermore, good counseling practices of FP providers that include display of pictures and/or samples of the methods to clients while explaining each method is vital. The above selected provider practices might positively impact the method choice and ultimately the prevalence of contraceptive use (MoHSS & ICF Macro, 2010).

2.7 CONTEXTUAL FACTORS ON FAMILY PLANNING AND CONTRACEPTIVE CHOICE AND PROVISION

It is generally understood that individual characteristics, such as age, level of education, marital status, parity, religion and husband/partner approval have a correlation with the FP and contraceptive choice and use among women (Okonofua, 2013; Mutombo, Bakibinga, Mukiira, & Kamande, 2014). Socioeconomic status too is a factor that influences contraceptive choices of women (Greenberg, Bruess & Oswalt, 2014), although contraceptives are provided free of charge to all seekers at public health facilities in Namibia (MoHSS, 2012). It should be noted that the 'free of charge' only covers direct cost of the method and not the traveling cost of women to reach the health facility. The use of an IUD/IUCD therefore has no direct cost and also little or no indirect cost for the woman as the woman who had an IUD/IUCD inserted is not required to make frequent visits to the health facility unlike the woman who is using the pills, injectables or condoms. Religion is also a factor that may influence contraceptive choices of women, as some women are prohibited by their religion to use modern contraceptive methods (Greenberg et al., 2014). Most of the time women are expected to take the responsibility of contraception alone, while it is good and beneficial to the couple to be concerned and share the responsibility for contraception (Golanty & Edlin, 2012).

2.7.1 Age

The IUD/IUCD is a contraceptive method that is designed for use by women in the reproductive age (15-49 years), just like other methods, such as the pills and injectables among others. However, many women in the reproductive age group are not using any contraceptive method even though they have no plans to get pregnant (Kei et al., 2015). Contraceptive use in general was found to be the lowest among young women, and higher among women in their thirties and declines among older women. This is an indication that young women have a high desire for child bearing, while women in their thirties have a high increasing interest of spacing births (Picavet et al., 2011; Okonofua, 2013). The United States (US) Food and Drug Association (FDA) approved the use of the copper IUD/IUCD for women 17 years and above in 2006 (Carrol, 2015). However, the IUDs/IUCDs may or may not be the best option for some of the adolescents as it would be for older women due to the difference in their contraceptive needs (Nobilling & Drollet, 2013). Another study on contraceptive use in women under 20 years of age in Iran, reported that out of 52% of contraceptive users, only one-quarter used an IUD/IUCD (Shahpoorian, Kashanian, Shakhan, & Sheikhansari, 2014). Furthermore, literature has revealed that the use of the IUD/IUCD among adolescents was more beneficial as compared to its disadvantages or potential risks (Hardeman & Weiss, 2014).

Some studies have reported that the majority of women who use contraceptive methods were between 25 and 35 years, while adolescent women (15-19) were few (Meskele & Mekonnen, 2014; Rahman, Sultana, Nazneen, Wahab, Wazed, & Begum, 2014). This is consistent with the findings of a study on discontinuation rates, switching behavior, and user satisfaction conducted in Pakistan, that showed that women aged 25-35 years were more likely to choose an IUD/IUCD as

their method of contraception as compared to women in other age groups (Azmat, Hameed, Mustafa, Hussain, Ahmed, & Bilgrami, 2013). This is despite that a number of up-to-date literature have publicized that adolescents too can safely use the copper IUD/IUCD (Schwartz, & Kempner, 2015).

2.7.2 Level of education

The association between level of education and the use of IUD/IUCD as a contraceptive method has been inconsistent. In a study on choice of contraceptives method among females attending a family planning center the results revealed that educated women were less likely to choose the intrauterine contraceptive method over other contraceptive methods (Amin, 2012). In contrast, the results of another study on awareness and knowledge of the intrauterine device in adolescents did not find any role that educational level play among the 21% adolescents who were aware of the IUD/IUCD (Barrett, Soon, Whitaker, Takekawa, & Kaneshiro, 2012).

Several other literature have confirmed that women with lower level of education are less likely to use a contraceptive method (Kei et al., 2015). This is evident, in a study on women's experience with postpartum intrauterine device use in India, which found that women with some level of education were most likely to use the IUD/IUCD as compared to the women who had no education (Kumar, 2014).

2.7.3 Marital status

It is generally understood that family units are formed by married couples who are expected to bear and rear children. However, unmarried women and adolescents engage in sexual relations which equally expose them to the risk of unintended pregnancy and childbirth (Mazur, 2013). The

decision that women make regarding what type of contraceptive method to use is partly influenced by their marital status which is related to their fertility intentions (Wellings, Mitchell, & Collumbien, 2012; Solinger, 2013). The use of contraception was made legal in the U.S in 1972 for both married and unmarried individuals and couples, because prior to that unmarried women were discriminated against when they wanted to access modern contraceptives (Carroll, 2015). However, in many countries, FP services are mainly provided at health facilities apart from pharmacies and community-based programmes and some providers would request women to proof that they are married or produce written consent by their husbands before they can be given a contraceptive method (Walraven, 2013).

2.7.4 Parity

Studies have shown that the use of contraceptives increases with parity of women up to the third or fourth child and then decline thereafter. This is partly because many women have a desire to space births during the early reproductive age and want to limit child bearing once they have achieved their desired family size (Okonofua, 2013). A study on effects of age, parity and device type on complications and discontinuation of IUDs/IUCDs found no difference between women who have had children or have had no children (Aoun, Dines, Stovall, Mete, Nelson & Gomez-Lobo, 2014).

However, the IUDs/IUCDs are not commonly recommended for use by nulliparous women (Murray & McKinney, 2014), though it might be the only method that is appropriate at that specific point in time. There are other contraceptive options for nulliparous women, which they can tolerate better than the IUDs/IUCDs (Buttaro, Trybulski, Polgar, Bailey, & Sandberg-Cook, 2013). Despite

that the IUD/IUCD can be safely used as an emergency contraception by parous and nulliparous women (Konar, 2014), nulliparity was negatively associated with the willingness to use the IUD for emergency contraception (Pichardo, Arribas, Coccio, Heredia, Jaqroep, & Palermo, 2014).

2.7.5 Religion

Prior to the 1930s all Christian denominations firmly united as they prohibited the use of contraceptives. However, the Lambeth Conference and the Federal Council of Churches advocated for artificial birth control methods when abstinence was deemed impractical, in 1930 and 1931 respectively. The same was followed by major Protestant denomination decision whereby the National Council of Churches in 1961 declared a liberal policy on contraceptive use as per the mutual consent between couples. The Catholic Church position on contraception is highly influenced by the natural law theory of Aristotle, Augustine and Aquinas, which reasons that sexuality has its end purpose and procreation. Therefore, to interfere in this end would be a violation of the natural law, and thus a sin. Some Anglicans, Lutherans and Christian fundamentalists' denominations also shared similar views and believes of the Catholics. Hence, the Catholics advocate only for abstinence and natural family planning methods as suitable means for birth control (Barry, 2012). Despite the position of Roman Catholics on the use of modern contraceptives, the results of a study on knowledge and practice of FP in Cameroon revealed that more than half (53%) of the study participants were Roman Catholics who used contraceptives (Fusi-Ngwa, Payne, Asakizi, & Katte, 2013).

Additionally, some women would not consider the use of the IUD/IUCD due to some religious influences on side-effects or disadvantages of the IUD/IUD. For example changes in the bleeding

patterns, such as increased and irregular menstrual bleeding may interfere with the activities of the Muslim religion. However, the Mexican women found the use of the IUD/IUCD to be more appropriate than most methods because their partner would not know by himself that she has an IUD/IUCD inserted in her uterus. This is especially beneficial to woman whose husbands disapprove the use of the IUD/IUCD (Buhling, Zite, Lotke, & Black, 2014). Evidence has shown that some women (18%) reported that they would not consider using the IUD/IUCD in the future because of their religious beliefs among other reasons (Ragland et al., 2014).

2.7.6 Partner approval

Male partner opposition to the use of modern contraception is very common especially in developing countries (Fusi-Ngwa et al. 2013). Many family planning programmes focus on educating women on contraception but it is important to also involve men. Both men and women should be educated to be able to dispel myths about the dangers of using contraception. It is important for men to understand the benefits that contraception offers to the women, child, family and society as a whole. Men often lack information and do not know where to get services that would empower them to make informed decision about contraception (Mooney, Knox, & Schacht, 2014). Therefore, literature suggest that men should be involved in family planning decision-making to help enforce positive health outcomes for their partners, even though it is often the woman who decides about using contraception and what type to use (Wright, Fawson, Frost, & Turok, 2015).

Having considered the determinants of contraceptive use as described above, it important to understand the relationship between knowledge, attitudes and practices as well as the socio-demographic characteristics of FP acceptors and providers regarding the IUCD/IUD.

2.8 SUMMARY

This chapter discussed the literature review undertaken on the knowledge, attitudes and practices regarding the intrauterine contraceptive device (IUD/IUCD) among family planning providers and acceptors. The literature review covered quite a number of topics, namely; the history of FP and contraceptives, benefits of FP and contraceptives, types of FP and contraceptive methods, contraceptive method choice and contemporary research on knowledge, attitudes and practices. The IUD/IUCD as the main focus of this study was described in detail, with a focus on its mechanism of action, benefits, characteristics, side-effects, eligibility and the myths associated with the method.

The literature review revealed that considerable work has been done on knowledge/awareness, regarding the intrauterine contraceptive device (IUD/IUCD) among family planning providers and acceptors but not specifically on knowledge content of the IUD/IUCD. Also the literature review has revealed that considerable research did not focus on practices as defined in this study while research on the attitudes of family planning providers and acceptors were limited.

The research methodology adopted to explore the knowledge, attitudes and practices regarding the IUD/IUCD among FP providers and acceptors are presented in Chapter three that follows.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 INTRODUCTION

The preceding chapter two dealt with the literature review. Chapter three will firstly describe the design used for the research and outline the specific research methods employed in order to answer the research question. Secondly, it will define the population, describe the sample and the sampling procedures used for the study. Thirdly, it will describe the research instruments that were used to collect the data and how the instruments were administered. This chapter also described the strategies and methods that were used to analyze the data and describe the research ethical standards and principles that were followed during the study.

3.2 RESEARCH DESIGN

A research design refers to the specific process that a researcher uses to gather, analyze, and interpret the data (Stangor, 2011). In this study, a non-experimental, quantitative, exploratory, descriptive design was employed. It was non-experimental because the study did not aim to manipulate the independent variables and no intervention or treatment was applied, but to explore and describe the phenomenon as they occurred. It was quantitative because it required the researcher to use structured, rigid, fixed and predetermined data measurements and classifications (Kumar, 2014). To explore and describe the quantitative approach allowed the researcher to obtain quantifiable data regarding the knowledge, attitudes and practices of family planning acceptors and providers. Exploratory studies are used where no or limited information is available, thus the knowledge, attitudes and practices of family planning acceptors and providers regarding the

IUD/IUCD were explored (Stangor, 2011). A descriptive research design "typically involves measuring a variable or set of variables as they exist naturally" (Gravetter & Forzano, 2015). This design was therefore appropriate to explore and portray the knowledge, attitudes and practices regarding the IUD/IUCD among family planning acceptors and providers.

3.3 RESEARCH METHOD

Data collection methods help in obtaining information and to get the opinions and responses from people (Jooste, 2010). The researcher used structured questionnaires with open and close ended questions to get responses from the participants. The questionnaires were administered face-to-face by the researcher who interviewed the participants.

3.3.1 Research setting

The study was conducted at nine (9) health facilities in Khomas region, Namibia. Khomas region is one of Namibia's fourteen administrative regions. All the nine (9) health facilities where the study was conducted are situated in Windhoek which is the capital city of Khomas region. The list of health facilities included in the study is indicated in Table 3.1 under sub- section 3.3.5 below on page 45.

The inhabitants of the region are multi-cultural and speak different indigenous languages, namely; Afrikaans, Oshiwambo, Otjiherero, among others. The region is the most urbanized in the country and most of the inhabitants follow urban lifestyle.

3.3.2 Population

Gravetter & Foranzo (2015) refer to a population as "the total number of individuals which are of interest to a researcher. The researcher had two types of populations, the first population comprised of 582 female FP acceptors, between the ages of 15-49 who received FP services at nine (9) health facilities in Khomas region on the days of data collection. The second population comprised of nine (9) female FP providers, who were providing FP service on the days of data collection.

3.3.3 Inclusion criteria

- Female FP acceptors from the ages of 15 to 49 who received a FP method were included.
- One FP provider per health facility who was providing FP services on the day of the study was included.

3.3.4 Exclusion criteria

- Women who visited the FP services room but did not receive or accept any FP method were excluded.
- Health care workers who were not providing FP services on the day of the visit of the researcher to the health facility were also excluded.

3.3.5 Sample and sampling

A sample is a portion selected from the population which represents the target population (Wood & Ross-Kerr, 2011). Sampling refers to the process of selecting some part or fraction from the population of interest so that the researcher may generalize the findings to the whole population (Thomson, 2012). A probability sampling technique was used to select the sample for the FP acceptors which was calculated using the Epi Info version 7, Statcalc, based on a P=50%, 4%

margin of error and 95% confidence level. No actual sampling was performed for FP providers, thus the researcher studied the whole population, those who were providing FP services during data collection. At most health facilities in the region, only one FP provider is delegated to provide FP services on a specific day for more than a day or continuously for a week or even a month or months. Table 3.1 below, indicated the proportional distribution of the study population of FP acceptors.

Table: 3.1 Proportional distribution of study population of family planning acceptors (N=582)

Health Facility	**Population**	**Proportion**	**Sample Size**
Donkerhoek clinic	4585	0.051382	31
*Dordabis clinic	350	0.003922	*2
*Groot Aub clinic	806	0.009032	*5
Hakahana clinic	7934	0.088912	53
Okuryangava clinic	6834	0.076585	46
Otjomuise clinic	4877	0.054654	33
Robert Mugabe clinic	16808	0.188359	112
Wanaheda clinic	9329	0.104545	62
Katutura Health Centre	24665	0.276408	165
Khomasdal Health Centre	8907	0.099816	59
Katutura State Hospital Antenatal Care	3213	0.036006	21
*Windhoek Central Hospital Antenatal Care	926	0.010377	*6
Total	**89234**		**595**

*Facility excluded from the study due to too small sample

Table 3.2 below, displays the proportional distribution of the study population of FP providers

Table: 3.2 Proportional distribution of study population of family planning providers (N=9)

Respondent Job Title	Frequency	Percent
Enrolled Nurse/Midwife	4	44%
Registered Nurse/Midwife	5	56%
TOTAL	**9**	**100%**

3.3.6 The sample size

A sample size is defined as the number of units that comprise the sample (Singh & Mangat, 2013). Singh and Mangat (2013) emphasize the importance of ensuring that the sample is a representative of the population from which it is drawn. This study had a sample size of 595 FP acceptors from all twelve health facilities in the Khomas region. However, a purposive sampling was used to select nine (9) out of the 12 health facilities, due to the small sample size in three health facilities, which resulted in a sample size of 582 FP acceptors. The sample of FP acceptors was large and representative since it included participants whose characteristics represent the entire population. The sample of the FP providers comprised of nine (9) providers was small and therefore, inferences to the study findings of the FP providers will be applied with caution.

3.3.7 Sampling procedure

A sample of 582 FP acceptors was proportionately selected at the nine (9) health facilities in order to obtain a representative sample. A table of random numbers was applied in order to select the FP acceptors for interviews. The FP provider referred every second woman who visited the FP services to the researcher who then ascertained whether the woman has received a method or not. If the woman did not received a method she was not interviewed. In order for FP providers not to influence the responses of the sampled FP acceptors, the FP provider who attended to the clients was interviewed once all interviews with the sampled FP acceptors for a specific health facility were completed.

3.4 RESEARCH INSTRUMENTS

Research instruments are tools that are employed for the collection and measurement of data, which can be either already existing or tested, or one that need to be modified or newly developed ones (Keele, 2011). For this study two (2) structured interview questionnaires were developed, one for the FP acceptors and one for the FP providers as tools for data collection.

Both instruments covered the following five (5) key sections, namely: Section one on socio-demographic characteristics; section two on knowledge; section three on attitudes; section four on practices and section five on recommendations.

3.4.1 Section one on socio-demographic characteristics

For the FP acceptors, this section collected data on age category, educational level, marital status and religion, while, for the FP providers it collected data on age category, gender, number of years in practice, number of years providing family planning services, marital status and religion.

3.4.2 Section two on knowledge

This section collected data from the FP acceptors focusing on awareness of FP and contraceptive methods and on specific knowledge pertaining to the IUD/IUCD. Data on knowledge covered the characteristics, benefits and side-effects of the IUD/IUCD. It also covered knowledge of FP acceptors on who can use the IUD/IUCD and the myths associated with the IUD/IUCD. Similar questions were included in the instrument for the FP providers, with the addition of assessment of knowledge of the mechanism of action and the type of IUD/IUCD available at public health facilities.

3.4.3 Section three on attitudes

The section on attitudes among the FP acceptors, collected data on the current and future use of the IUD/IUCD, willingness to recommend the IUD/IUCD to others, as well as disapproval of FP and contraceptive methods by the church/religion and partner. On the other hand, for the FP providers data was mainly collected on current and future training as well as recommendation of the IUD/IUCD to clients or others.

3.4.4 Section four on practices

This section for the FP acceptors collected data on aspects related to the content of counselling and information received, method choice and decision making, feeling welcomed and at ease by being greeted, provided with a chair, ensured privacy and assured of confidentiality. While data collected on this section from the FP providers focused on the availability of contraceptives, referral, content of counseling and information sharing, method choice and decision making. Similarly, questions which aimed at establishing whether the FP providers do greet clients, provide a chair to sit on during consultation, ensure privacy and confidentiality were also included.

3.4.5 Section five on recommendations

Both data collection instruments included data on recommendations regarding the improvement of IUD/IUCD service provision.

3.5 VALIDITY AND RELIABILITY OF DATA COLLECTION INSTRUMENTS

Reliability and validity has to do with measurement error in research. An error that happens at any stage of the research process can affect the study results and limit the usefulness of the findings (Wambach & Riordan, 2014). A valid instrument has to be reliable, but a reliable instrument may not be valid. For example, if a wrong variable is measured consistently, such an instrument cannot be regarded as valid (Miller-Kraska, 2013).

3.5.1 Validity

Validity refers to the degree to which an instrument measures what it is supposed to measure, meaning the measure should be accurate (Terhaar & Sylvia, 2014). Three types of validity, namely; construct, content and face value validity were considered.

Brink, Van der Walt, & Van Rensberg (2012), define construct validity as the ability of an instrument to measure a construct as intended. In this study the researcher developed instruments with appropriate questions that aimed at measuring the constructs under study to guarantee construct validity. This included questions related to knowledge, attitudes and practices of FP acceptors and FP providers.

Content validity refers to "the degree to which an instrument covers the scope and range of information that is sought" (Brink et al., p. 210, 2012). To ensure content validity the researcher utilized relevant literature to ensure that the instruments covered important questions that adequately described the knowledge, attitudes and practices of the FP acceptors and providers regarding the IUD/IUCD as well data pertaining to their socio-demographic characteristics and suggestions that they proffered on ways to enhance family planning practices and experiences for clients.

Face value validity is referred to as a subjective evaluation that the instrument appears to measure what it is supposed to measure (Brink et al., 2012). Therefore, face value validity was ensured by the researcher through developing instruments that appeared to be measuring the variables of interest. This was attested to by the researcher's research supervisor and other experienced researchers who reviewed the research proposal prior to data collection.

3.5.2 Reliability

Reliability is concerned with the amount of random error in a measure and measurement consistency. Reliability refers to the likelihood that a particular measurement procedure will produce similar results of a particular variable if that measurement is repeated (Rubin & Babbie, 2015). To ensure reliability the researcher conducted a pilot-test of the data collection instruments at Windhoek Central Hospital with FP acceptors and providers. The same instruments were applied to collect data from all participants. All the interviews were carried out by the researcher which increased reliability. Some interviews were conducted in the indigenous languages from English which were understood by the participants and the researcher.

3.6 PILOT STUDY

This study was conducted at nine (9) health facilities in the Khomas region. Both instruments were pilot tested by the researcher at the Windhoek Central Hospital Antenatal Care (ANC) on ten (10) FP acceptors and ten (10) providers. Pilot testing was conducted to correct ambiguities by checking the wording to ensure that the questions are indeed in the context that they are meant to be and ultimately assisting the researcher to re-assess the feasibility of the study (Olanrewaju & Abdul-Aziz, 2014). The pilot testing resulted in changes in the order of the questions and rephrasing questions to make them clearer.

3.7 DATA COLLECTION PROCEDURE

Data collection method is a process of gathering information from people to explore their opinions and reactions (Jooste, 2010). It also involves conducting interviews and or completion of questionnaires (Groves, Fowler, Couper, Lepkowski, Singer, Tourangean, 2011). On the day of

the interview at each health facility, the researcher informed the FP clients about the intended study and invited them to take part. The researcher arranged with the FP provider to send over one or two clients who had completed being provided with the service that day. The researcher was given a comfortable room in the health facility to ensure client confidentiality. Face-to-face interviews were conducted by the researcher using structured questionnaires with closed and open ended questions to collect data on knowledge, attitudes and practices regarding the IUD/IUCD.

At each health facility one FP provider was interviewed only after all the FP acceptors were interviewed. The questionnaires for the FP acceptor were prepared in English. The researcher being able to communicate in English, Afrikaans, Oshiwambo and Otjiherero could however interpret them in the specific languages to the FP acceptors who were more comfortable to communicate in any of the indigenous languages. The FP providers were all interviewed in English as the official language of communication. Both questionnaires for FP acceptors and providers were numbered and placed in separate envelopes. The questionnaires were kept safe in envelopes stored in a lockable cabinet by the researcher to preserve confidentiality.

3.8 DATA ANALYSIS

Data analysis entails categorizing, ordering, manipulating and summarizing, and describing them in meaningful terms" (Brink et al., 2012). The researcher created data files in which the data were entered and cleaned using the Epi Info version 7. All statistical analysis were performed using the Epi Info version 7 with the assistance of a statistician. The data on socio-demographic characteristics of the FP acceptors and providers were summarized and described using descriptive statistics, such as percentages and proportions displayed in the form of tables and figures. The data on knowledge, attitudes and practices of the FP acceptors and providers were also summarized and

described utilizing percentages and proportions displayed in the form of tables and figures. These descriptive approaches helped in making deductions from the collected data by relating the findings to the sample.

3.9 RESEARCH ETHICS

The Post-Graduate Studies Committee (PGSC) of the University of Namibia (UNAM) reviewed and approved the research proposal. Similarly, permission to conduct the study was sought from the Ministry of Health and Social Services (MoHSS) which was granted by the Permanent Secretary.

The researcher observed the principle of respect for autonomy by informing study participants about the purpose of the study. Participants' right to self-determination was ensured by securing their informed verbal consent prior to the interview. The study participants were also informed that their participation was completely voluntary and that they have the right to withdraw at any stage of the interview without prejudice (reference).

The researcher adhered to the principle of non-maleficence by securing the well-being of participants for their right to protection from discomfort (reference). Therefore, the interviews were conducted in a safe and conducive environment. The principle of beneficence was ensured by informing participants that the findings of the study will be applied to inform policies, guidelines and improved health care delivery regarding family planning which will ultimately be beneficial to family planning acceptors, including the respondent in the long run.

To ensure that the principle of justice is respected the researcher ensured participants' right to fair selection and treatment by selecting participants with fairness. Participants' right to confidentiality and respect to anonymity was ensured by identifying the instruments with numbers instead of recording their names to avoid linkage and direct identity of the participants. Privacy was observed throughout the data collection procedure by interviewing the participants in a place where only the researcher and the participants were present. The researcher also informed participants that the data obtained from the interview would be used for the purpose of the study only. Data is aggregated and generalized and does not refer to a specific individual (Jooste, 2010; Olarewaju & Abdul-Aziz, 2014; Wood & Ross-Kerr, 2011).

3.10 SUMMARY

This chapter dealt with the research methodology that had been followed in this study, addressing the research design, population, sampling procedure, data collection instruments and data collection procedure. Pilot testing, data quality checks for consistency, completeness and accuracy of the data collection instruments were performed as measures to ensure validity and reliability of the research results.

Chapter four that follows will cover the study results based on analysis of the data obtained from the face-to-face interviews with the FP providers and acceptors at health facilities in Khomas region. The purpose of this study was to explore and describe the knowledge, attitudes and practices regarding the IUD/IUCD among family planning providers and acceptors in Khomas Region, in Namibia.

CHAPTER 4

DATA ANALYSIS AND PRESENTATION OF THE STUDY FINDINGS

4.1 INTRODUCTION

The preceding chapter 3 described the research methodology that was followed in selecting the appropriate research design, study population, sample size and sampling or sample selection, research instruments, data collection procedure, data analysis, including the research ethics. This chapter presents and describes the results of the study in the form of tables and charts. The data were analyzed using Epi Info version 7 (CDC). Both descriptive and inferential statistics are used to summarize the study results. The results are presented under the socio-demographic factors, and the knowledge, attitudes and practices regarding the intrauterine contraceptive device (IUD/IUCD) among the FP acceptors and providers. The data was collected from the FP acceptors and providers at nine (9) health facilities in Khomas region. In this study, interviews were conducted by the researcher using structured questionnaires. In addition, a confidence interval of 95% was used to make statistical inferences of the sample to the population.

4.2 PRESENTATION OF THE FINDINGS

The data on socio-demographic characteristics of the FP acceptors and providers were categorized and summarized using descriptive statistics, such as percentages and proportions displayed in the form of tables and figures. The data on knowledge, attitudes and practices of the FP acceptors and providers were also categorized, summarized and described by using percentages and proportions which are displayed in the form of tables and figures.

4.3 COVERAGE RATE

Table 4.1 indicates that the coverage rate for this study was 100%. All 582 FP acceptor and nine (9) FP provider questionnaires were completed, entered and analyzed. All the study respondents were females.

Table: 4.1 Coverage rate

Name of facility	Type of facility	Number of FP acceptors	Percentage %
Donkerhoek	Clinic	31	5
Hakahana	Clinic	53	9
Katutura	Health Centre	165	28
Katutura State	Hospital	21	4
Khomasdal	Health Centre	59	10
Okuryangava	Clinic	46	8
Otjomuise	Clinic	33	6
Robert Mugabe	Clinic	112	19
Wanaheda	Clinic	62	11
Total		**582**	**100**

4.4 PRESENTATION OF STUDY FINDINGS FOR FP ACCEPTORS

4.4.1 Socio-demographic characteristics

4.4.1.1 Age of respondents

The respondents who participated in this study were categorized into different age groups as displayed in Figure 4.1 below.

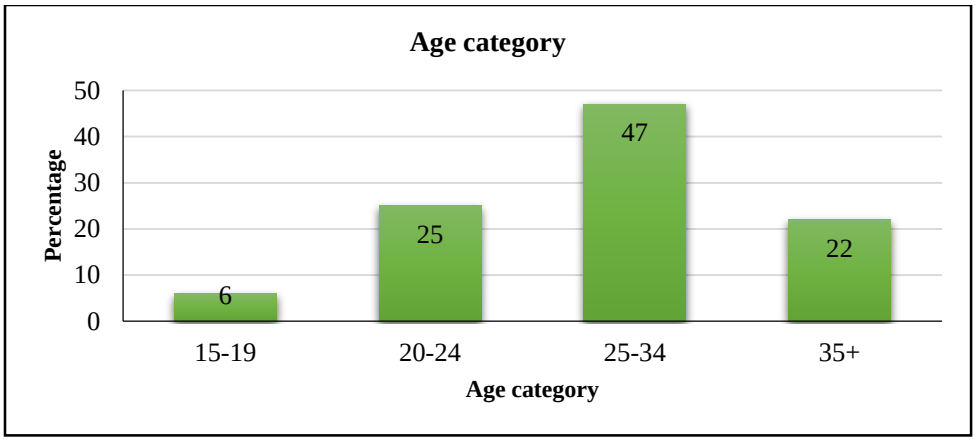

Figure: 4.1 Distribution of the family planning acceptors by age category

The FP acceptors interviewed ranged from the ages of 15 to 35 years and older. The majority (n=272; 47%) of the FP acceptors were in their mid-twenties to mid-thirties (25-34), while 25% (n=146) were aged between 20-24 years, 22% (n=127) were 35 years and older and 6% (n=37) were between 15-19 years. This study indicates that adolescent girls (15-19 years) were less likely to utilize FP services in Khomas region as compared to older women.

4.4.1.2 Level of education

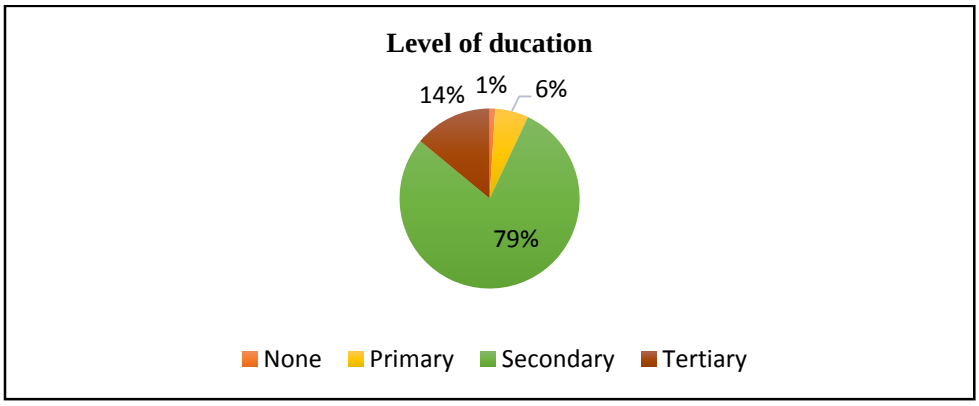

Figure: 4.2 Distribution of the family planning acceptors by level of education

Only 1% (n=5) of the FP acceptors interviewed had no education. The majority (n=460; 79%) had secondary school education, while 14% (n=81) and 6% (n=36) had tertiary education and primary school education respectively. Women who are educated were more likely to use FP and contraceptives unlike those women who had no education in Khomas region.

4.4.1.3 Religion of the respondents

The distribution of the FP acceptors by their religion is displayed in Figure 4.3 below.

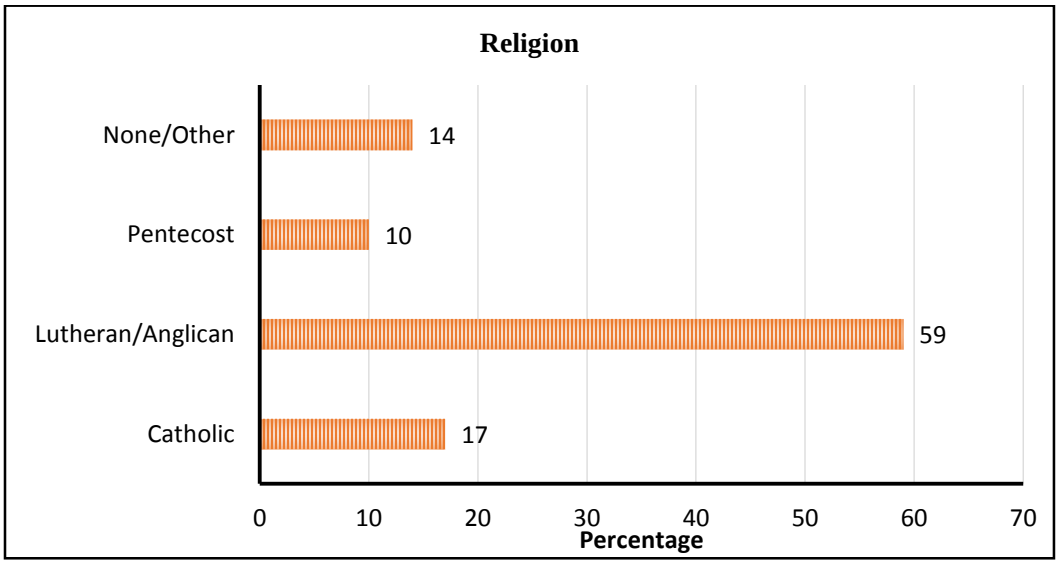

Figure: 4.3 Distribution of the family planning acceptors by religion

More than half (n=346; 59%) of the FP acceptors interviewed were Lutheran/Anglican, with 17% (n=99) being Catholics. Furthermore, 14% (n=80) of the FP acceptors did not cite any religion or belonged to other religions which were not mentioned, while, a minority (n=57; 10%) were Pentecostals. In this study, Catholic women and those from other or no religion were less likely to accept FP and contraceptive methods, unlike women from the Lutheran/Anglican faith.

4.4.1.4 Marital status of the FP acceptors

Table 4.2 below, displays the distribution of the FP acceptors by marital status.

Table: 4.2 Distribution of family planning acceptors by marital status

Marital status	Frequency	Percent %
Married	76	13
Unmarried	506	87
Total	**582**	**100**

Only 13% (n=76) of the FP acceptors interviewed were married, while the majority (n=506; 87%) were unmarried. It is observed in the present study that unmarried women were more likely to utilize contraceptives than married women.

4.4.1.5 Distribution of FP acceptors by number of children alive

Table: 4.3 Distribution of the family planning acceptors by number of children alive

Number of children alive	Frequency	Percent (%)
None	56	10%
1 to 4	501	86%
5 to 9	25	4%
10 and more	0	0%
Total	**582**	**100%**

The majority (n=501; 86%) of the FP acceptors had between 1-4 children, while 4% (n=25) had between 5-9 children and 10% (n=56) had no living child/children. This study shows that the majority of women who accepted FP and contraceptives were those who had one to four children as compared to women with no living child or those with more than five living children.

4.4.2 Family planning acceptor knowledge

This section presents information on knowledge of the FP acceptors regarding the types of FP and contraceptive methods. It also present information on specific knowledge content of the IUD/IUCD, namely; the characteristics, benefit and side-effects, women who can use the IUD/IUCD and the myths that are associated with the use of the IUD/IUCD. Only the FP acceptors (n=279; 48%) who responded that they knew or have heard about the IUD/IUCD were asked to respond on the questions on various specific knowledge content.

4.4.2.1 Acceptor knowledge of Family Planning and contraceptive methods

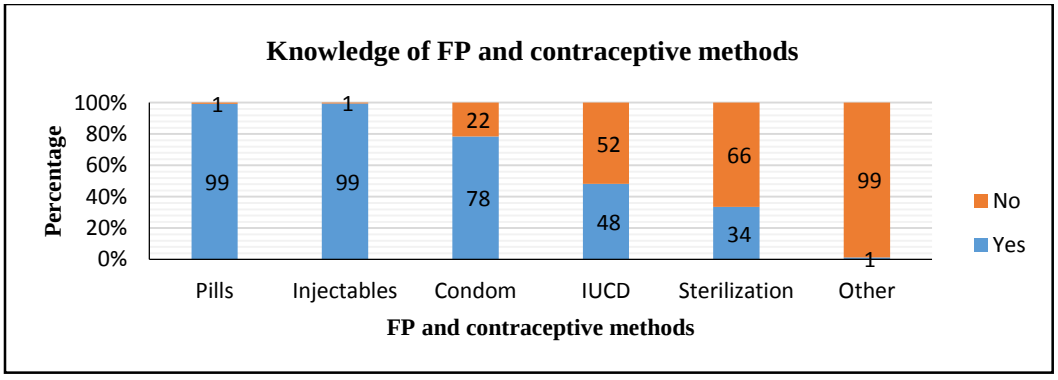

Figure: 4.4 Knowledge of family planning and contraceptive methods (N=582)

The FP acceptors were asked to name all FP and contraceptive methods that they knew or have heard of which are provided at public or private health facilities in Namibia. This specific question aimed at determining the knowledge of the FP acceptors regarding the types of FP and contraceptive methods. The study revealed that almost all the FP acceptors (99%) interviewed knew about the pills (n=578) and the injectables (n=579). In addition, the majority (n=456; 79%) of the FP acceptors knew about the condom, while less than half (n=281; 48%) of the FP acceptors knew about the IUD/IUCD. Furthermore, more than a third (n=195; 34%) of the FP acceptors knew about sterilization, while only 1% (n=7) knew about other FP methods, namely; the implants, and natural or traditional methods. This study illustrates that the IUD/IUCD and sterilization were the least known methods among the FP acceptors compared to injectables, pills and the condoms.

4.4.2.2 Family planning acceptor knowledge of the characteristics of the Copper IUD/IUCD

Figure 4.5 below displays knowledge of the characteristics of the Copper IUD/IUCD among the FP acceptors interviewed.

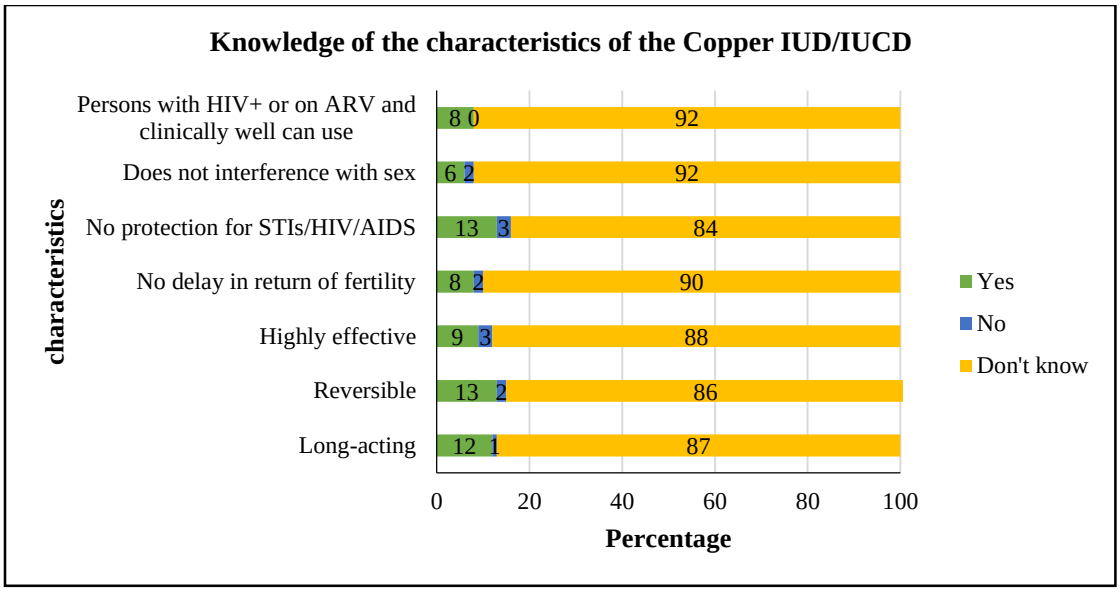

Figure: 4.5 Knowledge of the characteristics of the Copper IUD/IUCD (N=279)

The FP acceptors were asked to identify the characteristics of the IUD/IUCD by either responding 'yes', 'no' or 'don't know', after the researcher read out the statements. This study results shows that only 13% (n=36) of the FP acceptors knew that the IUD/IUCD is a temporary or reversible contraceptive method and that it has no protection for STIs including HIV/AIDS. In addition, only 12% (n=33) knew that the IUD/IUCD is a long-acting contraceptive method, 9% (n=25) knew that the IUD/IUCD is a highly effective contraceptive method, 8% (n=22) knew that there is no delay in return of fertility once the IUD/IUCD is removed and 6% (n=18) knew that the IUD/IUCD does not interfere with sex. Results from this study indicate that FP acceptor knowledge of the characteristics of the IUD/IUCD is very poor, ranging between 6% and 13% on a combination of characteristics.

4.4.2.3 Family planning acceptor knowledge of the benefits of the IUD/IUCD

Figure 4.6 below displays the FP acceptor's knowledge regarding the benefit of the IUD/IUCD.

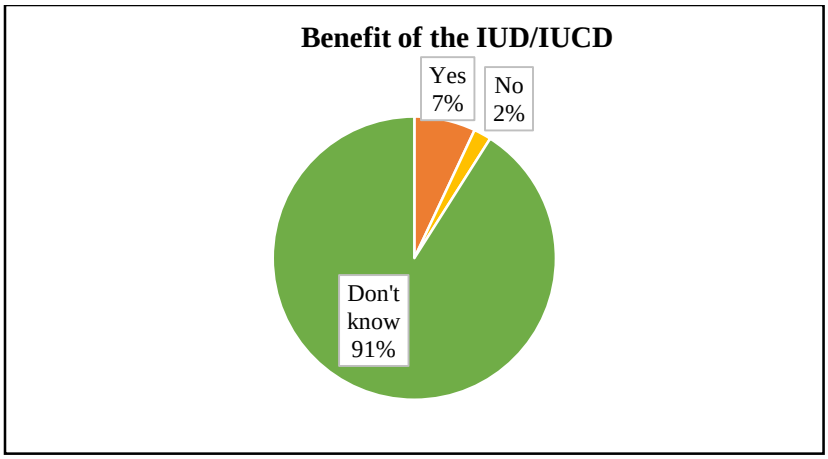

Figure: 4.6 Benefit of the IUD/IUCD (N=279)

The FP acceptors were asked to say ‘yes’, ‘no’ or ‘don’t know’ to the statement, “the IUD/IUCD does not require frequent visits to health facilities unlike with pills and injectables”, as a non-health benefit of the IUD/IUCD. The results of this study showed that only 7% (n=20) of the FP acceptors correctly identified the benefit of an IUD/IUCD as stated, while the majority (n=264; 93%) could not identify it as a benefit. As revealed by this study the majority of the FP acceptors had a lack of knowledge of the non-health benefit of the IUD/IUCD.

4.4.2.4 Family planning acceptor knowledge of the side-effects of the Copper IUD/IUCD

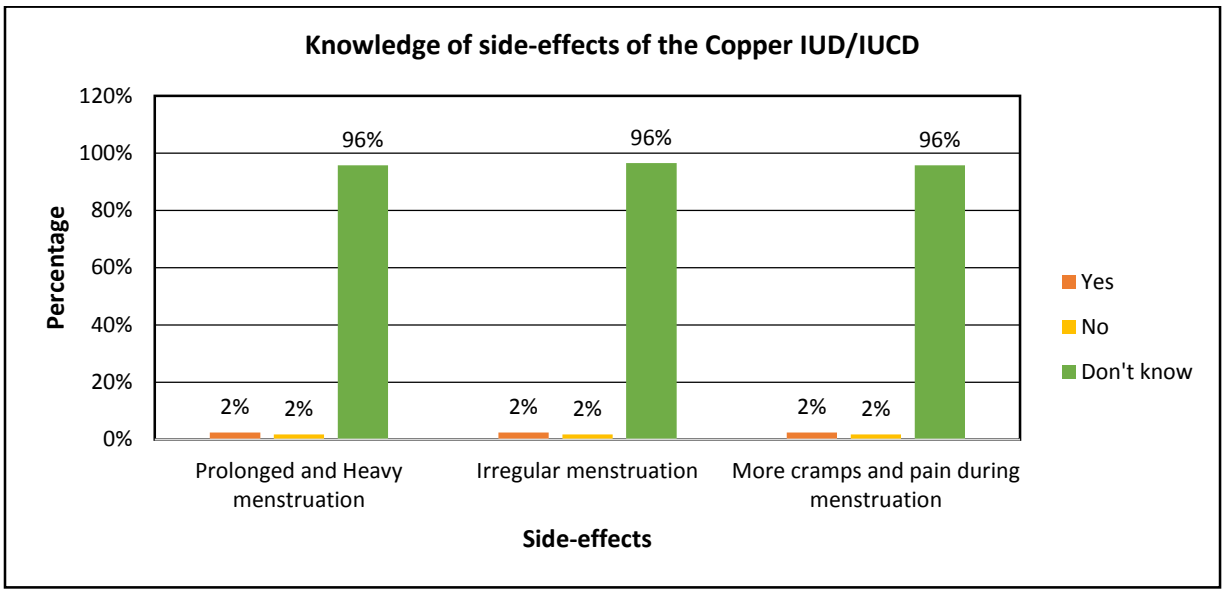

Figure: 4.7 Knowledge of side-effects of the Copper IUD/IUCD (N=279)

Only (n=11; 4%) of the FP acceptors could correctly identify the three common side-effects of the Copper-IUD/IUCD. This is an indication of very poor knowledge of side-effects of the IUD/IUCD among the FP acceptors.

4.4.2.5 Family Planning acceptor knowledge of women who can use an IUD/IUCD

Figure 4.8 below display knowledge of the FP acceptors regarding who can use an IUD/IUCD.

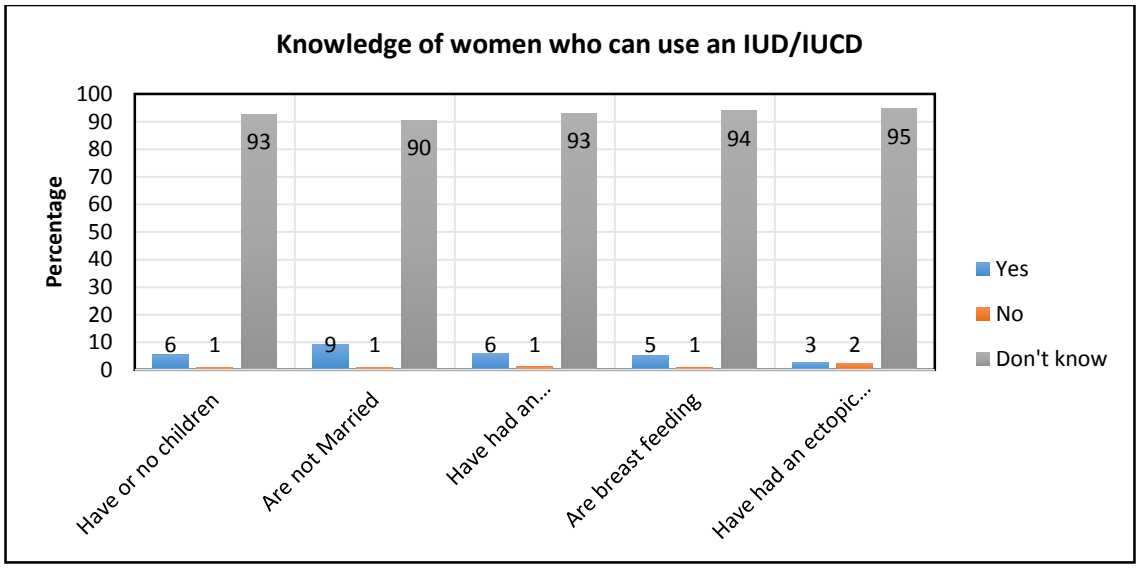

Figure: 4.8 Knowledge of women who can use an IUD/IUCD (N=279)

Five selected statements regarding women who can use or eligible to use an IUD/IUCD were read out to the FP acceptors. Only few of the FP acceptors knew that the following women: those who have or do not have children (n=17; 6%), are not married (n=25; 9%), have had an abortion or miscarriage (n=17; 6%), are breastfeeding (n=14; 5%) and have had an ectopic pregnancy can use an IUD/IUCD (n=8; 3%). This study found that knowledge regarding the eligibility of using the IUD/IUCD among certain women is very poor.

4.4.2.6 Family planning acceptor knowledge of myths associated with the IUD/IUCD

Figure 4.9 below present knowledge of the FP acceptors regarding the myths that are associated with IUD/IUCD.

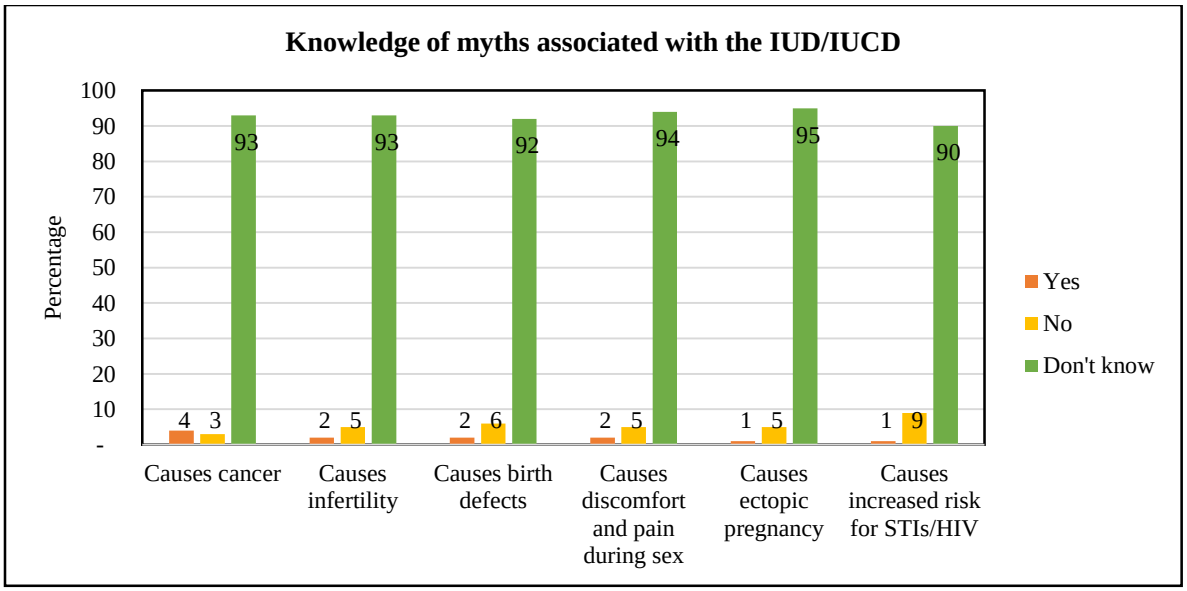

Figure: 4.9 Knowledge of myths associated with the IUD/IUCD (N=279)

Statements were read out to the FP acceptors to establish their knowledge about myths related to the IUD/IUCD. The majority of the FP acceptors did not know that ectopic pregnancy (n=265; 95%), discomfort and pain during sex (n=262; 94%), infertility and cancer (n=259; 93%) and increased risk for STIs/HIV (n=251; 90%) are myths that are associated with the IUDs/IUCDs. Furthermore, below 5% (n=14) of the FP acceptors agreed with the myths that the IUDs/IUCDs cause ectopic pregnancy, discomfort and pain during sex, infertility and cancer and that it causes an increased risk for STIs/HIV among users. Only 9% (n=25) and below could dispel the myths that IUDs/IUCDs causes an increased risk for STIs/HIV (n=25; 9%), birth defects (n=17; 6%), discomfort and pain during sex, infertility and ectopic pregnancy (n=14; 5%) and cancer (n=8; 3%). These findings show that the vast majority of the respondents had very limited knowledge with regard to the myths that are associated with the IUD/IUCD.

4.4.3 Family planning acceptor's attitudes regarding FP and contraceptive methods

The FP acceptors were asked whether they are currently using an IUD/IUCD or perhaps would consider using it in future, and whether they would recommend it to another person. Partners and church approval were assessed indirectly by asking the FP acceptor whether their partners or church would approve of them using a contraceptive method. Figure 4.10 below presents the family planning acceptors' attitudes regarding the IUD/IUCD.

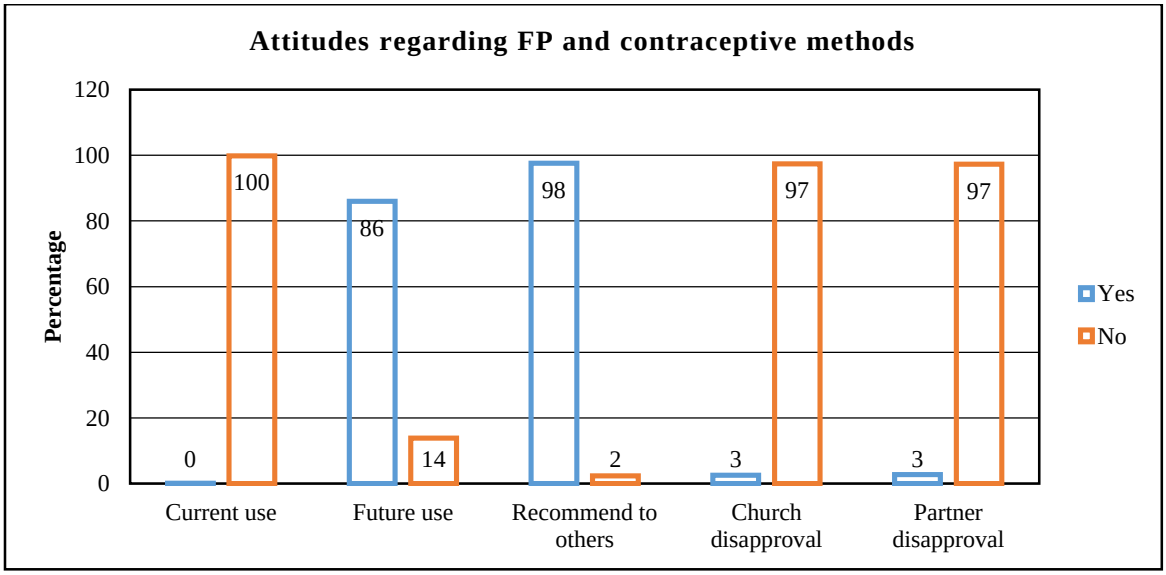

Figure: 4.10 Attitudes regarding family planning and contraceptive methods (N=582)

None of the FP acceptors were using the IUD/IUCD as their method of contraception at the time of the study, however, 86% (n=501) did consider using it in future, and almost all (n=568; 98%) said they will recommend the IUD/IUCD to others. This study displayed positive attitude of FP acceptors with regard to future intentions to use the IUD/IUCD and recommending it to others.

Only 3 percent of the FP acceptors experienced disapproval for use of contraceptive methods by both their churches and sexual partners, while ninety seven percent did not. This study finding revealed a positive attitude as churches disapproval for use of IUD/IUCD and FP in general is not widespread among FP acceptors in Khomas region.

4.4.4 Family planning acceptor's experience of provider practices

The FP acceptors were asked some questions which aimed at exploring and describing the practices of providers during FP service provision. The questions focused on selected provider practices at FP service provision that included assurance of 'confidentiality' and 'privacy', 'greeting' and 'offering a chair to acceptors to sit on', and 'providing information regarding all available FP and contraceptive methods and pictures or samples of the methods'. The provider practices as experienced by the FP acceptors' are presented in Figure 4.11 below.

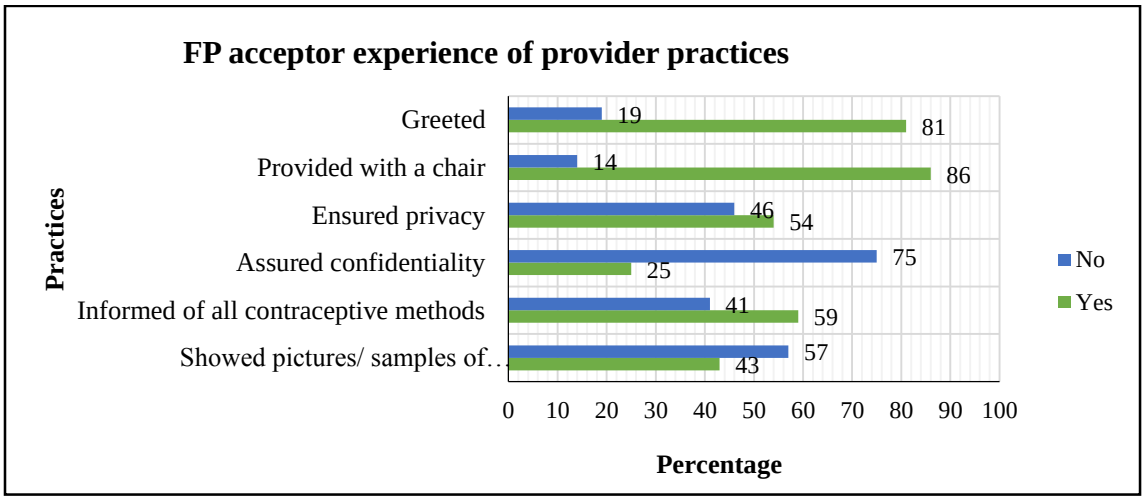

Figure: 4.11 Family planning acceptors experience of provider practices (N=582)

Only one quarter (n=146; 25%) of the FP acceptors were assured of confidentiality, and a little more than half (n=317; 54%) were assured of their privacy. Above 80% of the FP acceptors were offered a chair to sit on during the FP visit and greeted by the provider (n=499; 86% and n=469; 81%, respectively). Moreover, 59% (n=343) of the FP acceptors were informed of all available contraceptive methods and 43% (n=253) were shown picture or samples of FP methods. This study found that assuring clients of confidentiality and ensuring privacy were not commonly practiced. However, greeting and providing a chair were most likely practiced. Informing clients of all available methods was also not a very common practice of FP providers.

4.5 PRESENTATION OF THE STUDY FINDINGS OF THE PROVIDERS

4.5.1 Descriptive socio-demographic characteristics

This section describes the socio-demographic characteristics of the FP providers by their gender, job title, age, religion and the number of years the involved in providing FP services in tables and figures below.

4.5.1.1 Gender of the respondents

Table: 4.4 Distribution by gender (N=9)

Gender	Frequency	Percent %
Female	9	100
Male	0	0
Total	**9**	**100**

All (n=9; 100%) FP providers interviewed were females, 56% (n=5) were registered nurse midwives and 44% (n=4) were enrolled nurse midwives. Findings show that FP services in Khomas region were likely to be provided by females only.

4.5.1.2 Job title of the respondents

Table: 4.5 Distribution by job title

Job title	Frequency	Percent %
EN/M	4	44
RN/M	5	56
Total	**9**	**100**

Fifty six percent (n=5) of the family planning providers were registered nurse midwives, while forty four percent (n=4) were enrolled nurse midwives. The responsibility of providing FP services in Khomas region is almost equally shared between the registered and enrolled nurse midwives, 56% and 44%, respectively.

4.5.1.3 Age of the respondents

The age of the respondents are displayed in Figure 4.12 below.

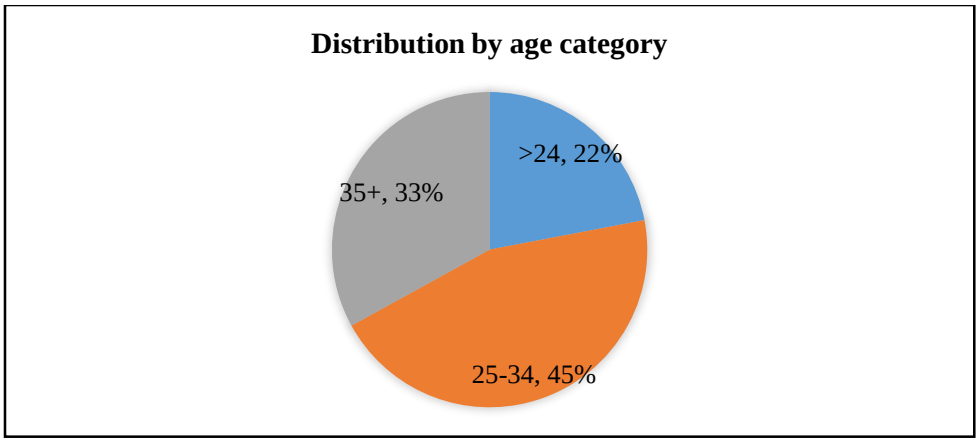

Figure: 4.12 Distribution by age category

Forty five percent (n=4) of the FP providers were aged between 25 and 34 and 33% (n=3) were aged 35 years and above. About 22% (n=2) of the FP providers were 24 years of age and below. Results of this study revealed that the majority of the FP providers were above 25 years of age.

4.5.1.4 Religion of respondents

The religion of the respondents are shown in Figure 4.13 below

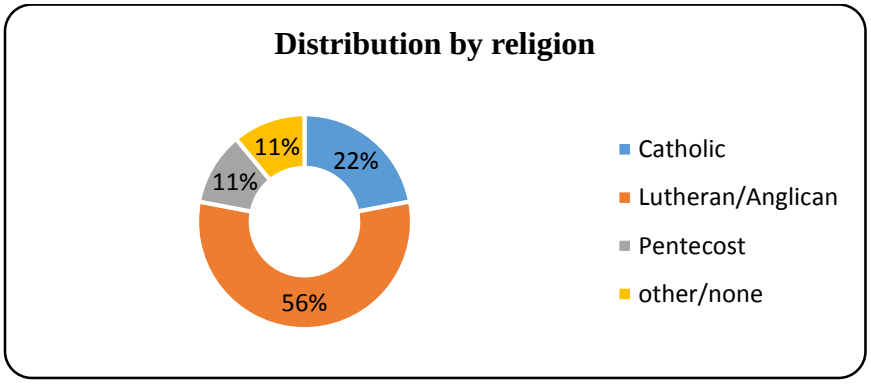

Figure: 4.13 Distribution by religion

The majority (n=5; 56%) of the FP providers were Lutherans/Anglicans, while 22% (n=2) were Catholics, and another 22% (n=2) were either Pentecostals, other religion or did not belong to any religion. The majority of the FP providers belonged to the Lutheran or Catholic Church.

4.5.1.5 Number of years providing FP services

Figure 4.14 below illustrate the number of years the FP acceptors have been providing FP services.

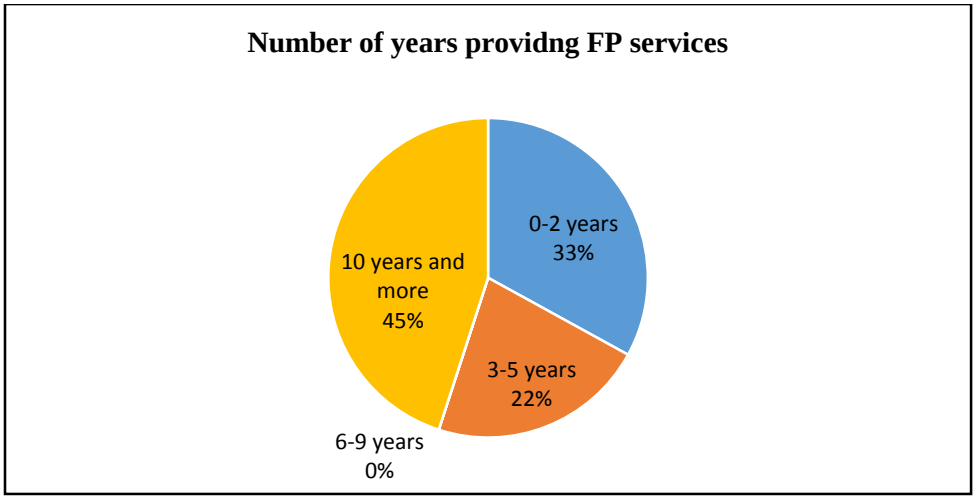

Figure: 4.14 Number of years providing family planning services

Less than half (n=4; 45%) of the FP providers have been providing FP services for about 10 years and longer, while 22% (n=2) have been providing FP services for three to five years and 33% (n=3) have been providing FP services for two years and less. The results show that 55 percent of the FP providers who were providing FP services have been doing so for less than 10 years, while 45% have been providing the FP services for 10 years and longer.

4.5.2 Family planning provider knowledge of the IUD/IUCD

The FP providers were asked questions on knowledge or awareness of the IUD/IUCD, namely; whether they have ever heard or seen the IUD/IUCD, including specific knowledge content

regarding the mechanism of action, characteristics, benefit and side-effects of the Copper IUD/IUCD, who can use the IUD/IUCD and the myths that are associated with the use of the IUD/IUCD.

4.5.2.1 Family Planning providers who have ever heard or seen the IUD/IUCD

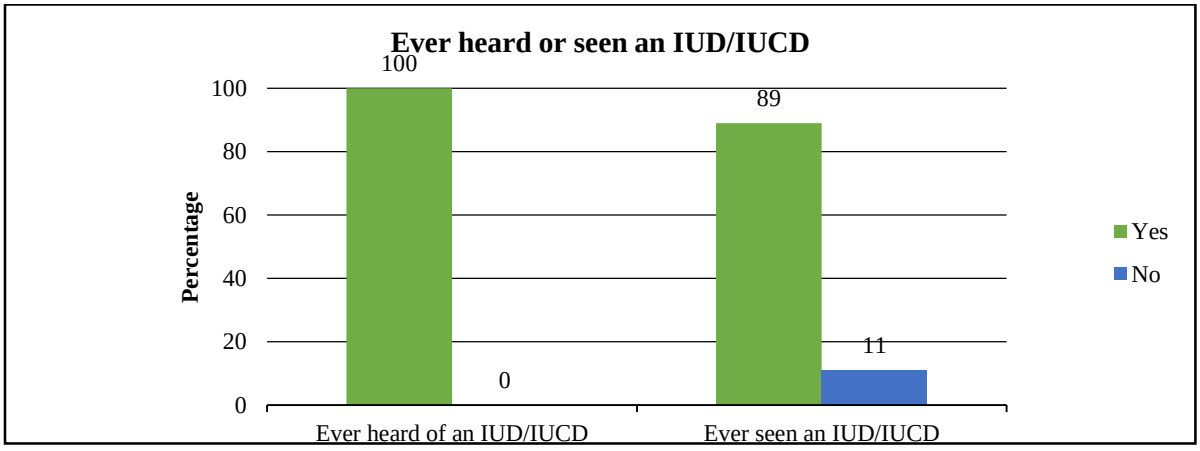

Figure: 4.15 Family planning providers ever heard or seen the IUD/IUCD (N=9)

All (n=9; 100%) FP providers have heard of the IUD/IUCD and the majority (n=8; 89%) have seen it. The findings revealed that awareness of the IUD/IUCD among FP providers was good (100%). Even though a large majority (8 out of 9, (89%)) of the providers have seen it, the one respondent who had not seen it indicates that she might not recommend or prescribe it to clients.

4.5.2.2 Family Planning provider knowledge of the mechanism of action of the Copper IUD/IUCD

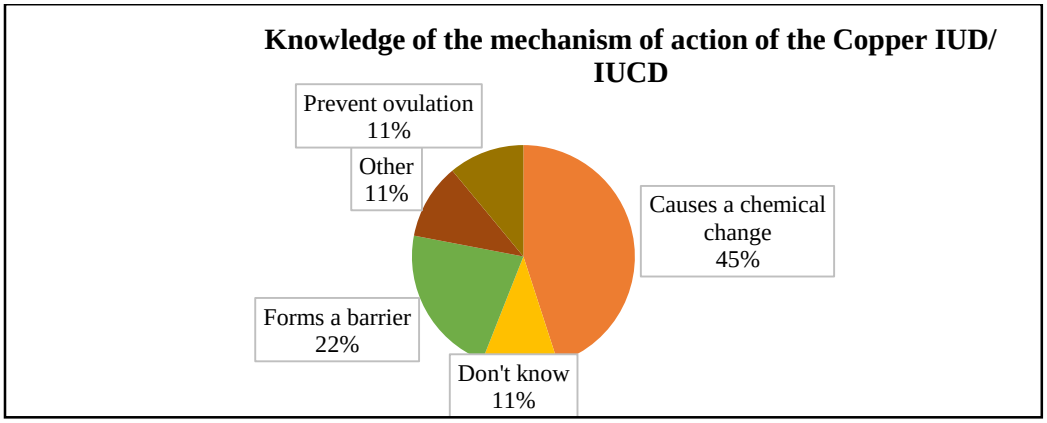

Figure: 4.16 Knowledge of the mechanism of action of the Copper IUD/IUCD (N=9)

The FP providers were asked to identify the mechanism of action of a Copper IUD/IUCD. Out of nine (9) participants, one (11%) indicated that it prevents ovulation, one (11%) said she does not know, 2(22%) said it forms a barrier while less than half (n=4; 45%) of the FP providers correctly identified that it causes a chemical change which is the primary mechanism of action of the Copper IUD/IUCD. By implication it means that only four out of nine (45%) FP providers had knowledge of the primary mechanism of action of the copper IUD/IUCD.

4.5.2.3 Family Planning provider knowledge of the characteristics of the Copper IUD/IUCD

Figure 4.17 below present knowledge of the FP providers regarding the characteristics of the Copper IUD/IUCD.

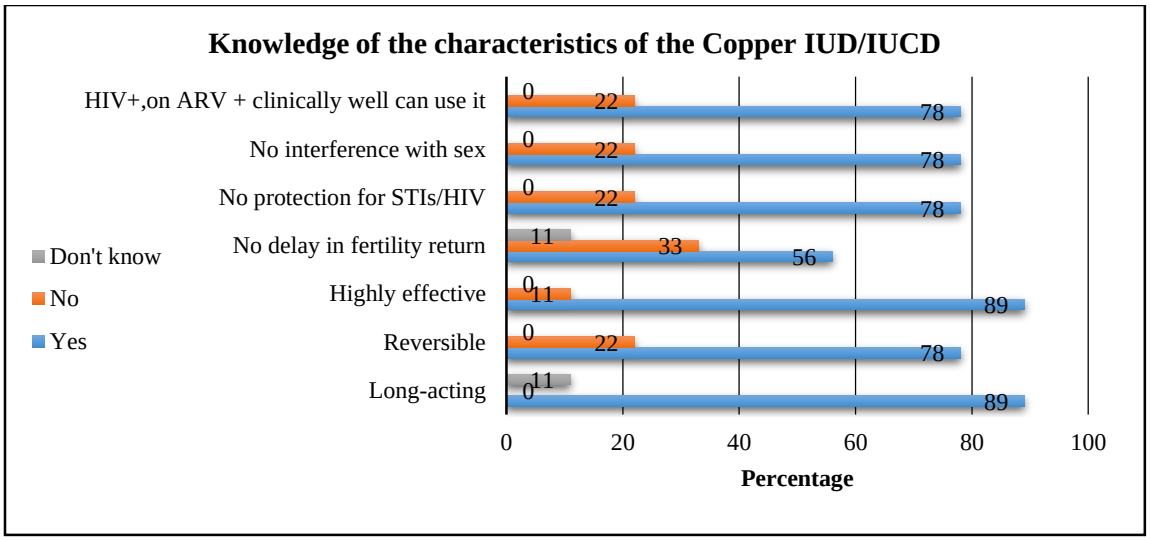

Figure: 4.17 Knowledge of the characteristics of the Copper IUD/IUCD (N=9)

The FP providers were asked to identify the characteristics of a Copper IUD/IUCD as the researcher read out statements to them. A vast majority (n=8; 89%) of the FP providers correctly identified the Copper IUD/IUCD as a long-acting and highly effective method. In addition, the majority of the FP providers (n=7; 78%) correctly identified that the Copper IUD/IUCD can be used by women who are HIV positive, on ARV and who are clinically well, and that it does not interfere with sex and has no protection against STIs/HIV/AIDS. Moreover, only 56% (n=5) of the FP providers identified that the Copper IUD/IUCD does not delay return of fertility after it is removed. The FP providers displayed good knowledge (78% to 89%) while 5 respondents (56%) had fair knowledge on certain characteristics of the IUD/IUCD.

4.5.2.4 Family Planning provider knowledge of the benefits of the IUD/IUCD

The FP providers were ask to state whether the IUD/IUCD require frequent visits or not, by responding "yes', 'no' or 'don't know'. All the FP providers (n=9; 100%) knew that the IUD/IUCD

does not require frequent visits as a non-health benefit for the user. The FP providers had good knowledge of one of the key benefit of the IUD/IUCD for the user.

4.5.2.5 Family Planning provider knowledge of side-effects of the Copper IUD/IUCD

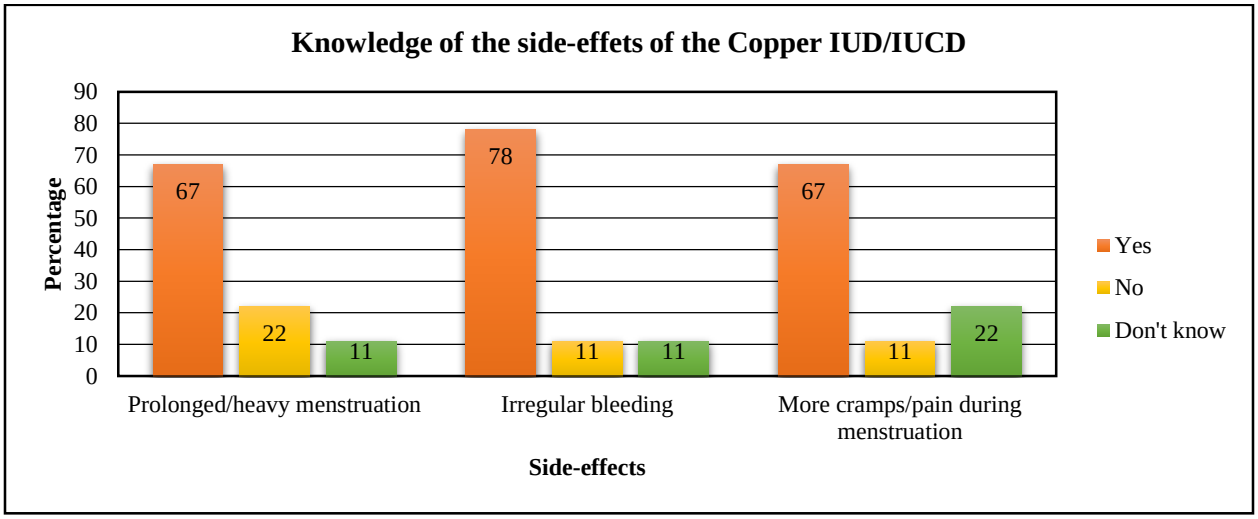

Figure: 4.18 Knowledge of the side-effects of the Copper IUD/IUCD (N=9)

The FP providers were asked to identify the three common side-effects of the Copper IUD/IUCD as they were read out to them. Close to eighty percent (n=7; 78%) of the FP providers knew that irregular bleeding is a side-effect of the Copper IUD/IUCD. More than three quarters (n=6; 67%) also knew that prolonged/heavy menstruation, more cramps and pain during menstruation are side-effects of the Copper IUD/IUCD. In this study, knowledge of side-effects of the IUD/IUCD among FP providers was rather fair (67% to 78%).

4.5.2.6 Family Planning provider knowledge of women who can use an IUD/IUCD

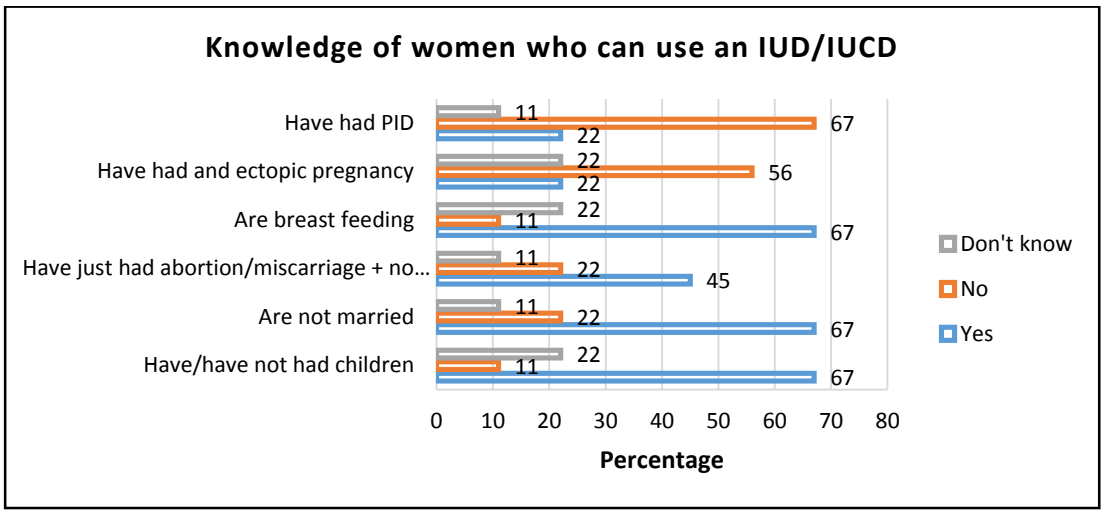

Figure: 4.19 Knowledge of women who can use an IUD/IUCD (N=9)

The FP providers were asked to identify the various women who can use the IUD/IUCD according to the National Guidelines on Family Planning (MoHSS, 2012). About two thirds (n=66; 67%) of the FP providers knew that women who are breast feeding, who have or have not had children and those who are not married can safely have an IUD/IUCD inserted. Less than half (n=4; 45%) of the FP providers knew that women who have had an abortion or a miscarriage and have no evidence of infection can safely have an IUD/IUCD inserted; while only 22% (n=2) of the FP providers knew that women who have had Pelvic Inflammatory Disease (PID) and those who have had an ectopic pregnancy can safely have an IUD/IUCD inserted. The results illustrate that the FP providers' knowledge on certain questions about who can use an IUD/IUCD was inadequate (22% - 66%).

4.5.2.7 Family Planning provider knowledge of myths associated with the IUD/IUCD

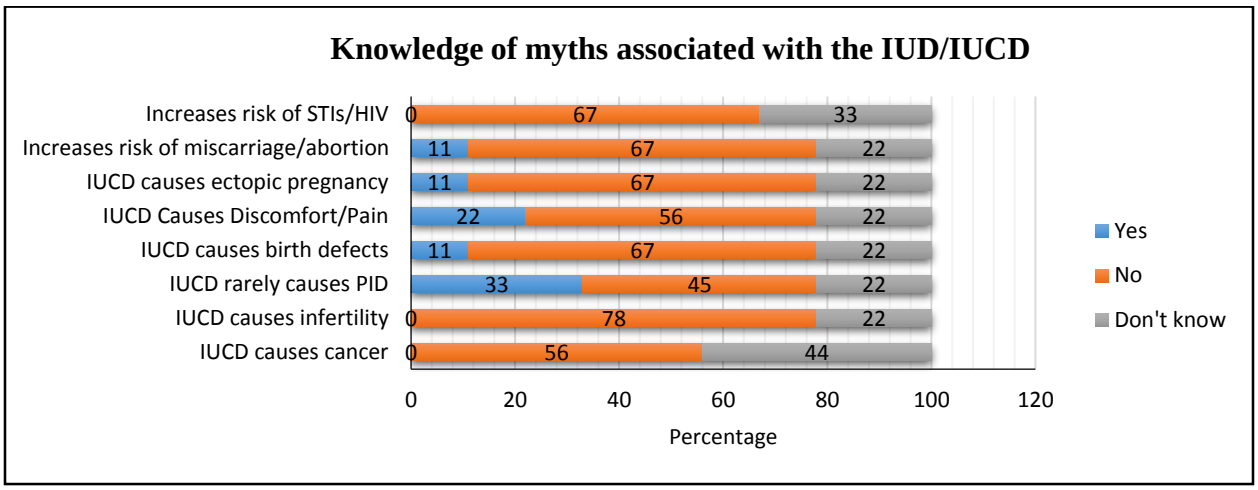

Figure: 4.20 Knowledge of myths associated with the IUD/IUCD ((N=9)

About seventy eight percent (n=7; 78%) of the FP providers knew that the IUD/IUCD does not cause infertility, while 67% (n=6) knew that the IUD/IUCD does not cause birth defects, or increase the risk of contracting STIs/HIV/AIDS, or increase the risk of an abortion or a miscarriage or cause ectopic pregnancy. Additionally, 56% (n=5) of the FP providers knew that the IUD/IUCD does not cause cancer and discomfort or pain during sex. This study showed that the ability of the FP providers to dispel the myths that are associated with the IUD/IUCD is good to fair (78% to 67%, respectively) and fair (56%) in some few other aspects.

4.5.3 Family planning provider attitudes towards FP and contraceptives

The FP providers were asked whether they would recommend the use of an IUD/IUCD to clients, recommend the training on IUD/IUCD for registered and enrolled nurse/midwife, their willingness to be trained and whether they were trained. This study results showed that all the FP providers (n=9; 100%) responded that they will recommend the use of the IUD/IUCD to clients. In addition, since none of the respondents have ever received training on the IUD/IUCD, they all indicated that

they would like to be trained. Furthermore, all the respondents (n=9; 100%) indicated that they would recommend training on the IUD/IUCD for both registered and enrolled nurse midwives. This study findings revealed that the FP providers displayed positive attitudes regarding future training for both registered and enrolled nurse midwives. They also positively felt that they will recommend the IUD/IUCD to potential clients.

4.5.4 Family planning provider practices

Under this section, the FP providers were asked to mention the types of FP and contraceptive methods that were provided at their health facilities, to describe certain important practices that support the provision of FP services, namely: whether they 'always', 'sometimes' or 'never' greet, ensure privacy and confidentiality of clients, provide them with chairs to sit during consultation, prescribe contraceptive methods, show clients samples or pictures of contraceptives and whether they counsel clients on all FP and contraceptive methods. In addition the FP providers were asked to state the number of days per week that they provide FP services at the health facility and to mention whether they had ever referred a client who was seeking FP to another health facility, and to specify the contraceptive method the client was referred for.

4.5.4.1 Type of Family Planning and contraceptive methods provided at health facilities

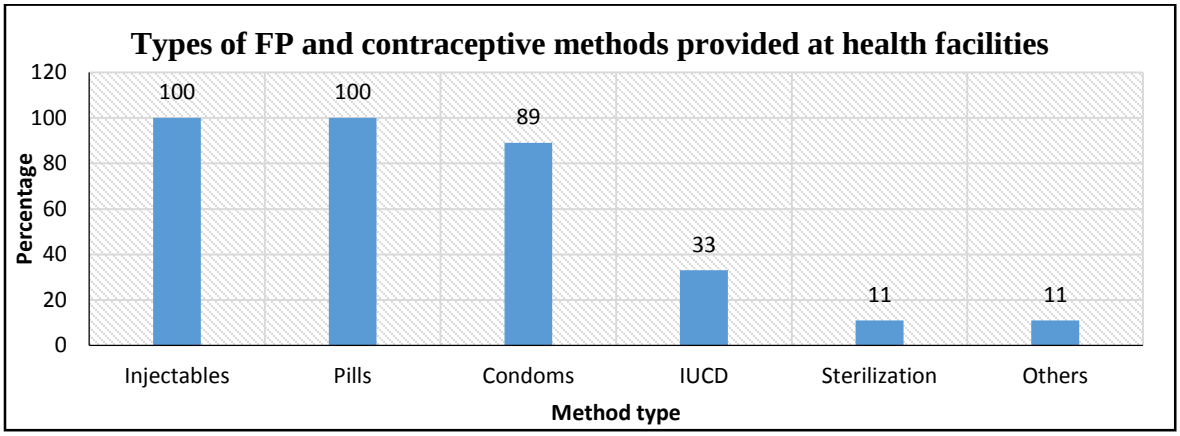

Figure: 4.21Types of family planning and contraceptive methods provided at health facilities (N=9)

All (n=9; 100%) the FP providers mentioned that they provide pills and injectables. Eighty nine percent (n=8) mentioned that their health facilities provide condoms as a method of contraception as well. Only 33% (n=3) of the FP providers mentioned that they provide the IUD/IUCD at their health facility, while sterilization accounted for 11% (n=1). Results of this study found that the IUD/IUCD is the least provided contraceptive method after sterilization at health facilities in Khomas region.

4.5.4.2 Family Planning provider selected practices that support quality Family Planning services

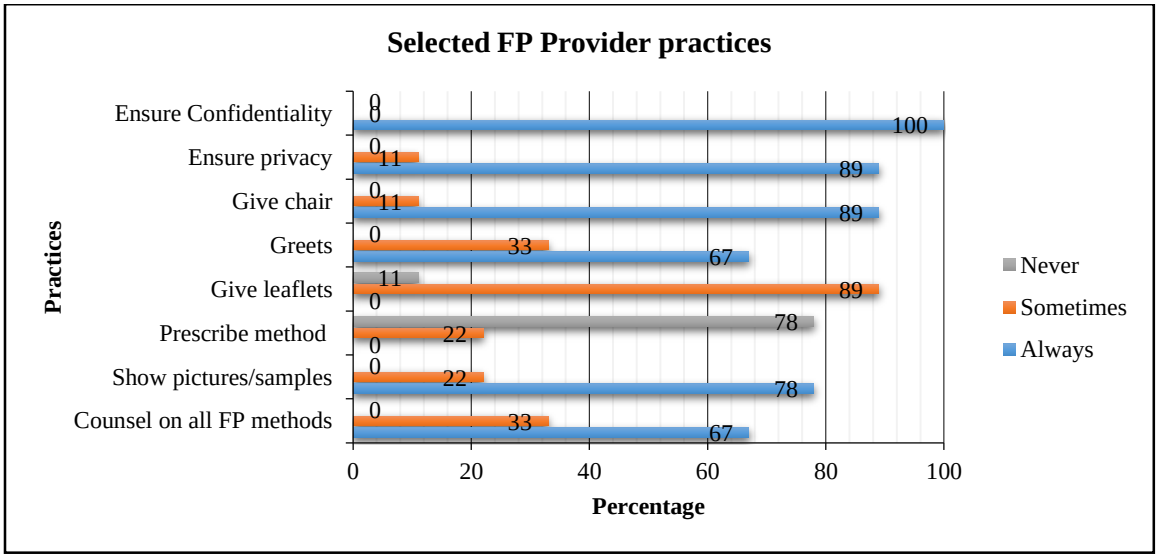

Figure: 4.22 Selected family planning provider practices (N=9)

All (n=9; 100%) the FP providers reported that they always ensure confidentiality, while 89% (n=8) equally reported that they always ensure privacy and provide chairs to their clients during FP service provision. These findings indicate that FP provider practices of assuring confidentiality was possibly always practiced while ensuring privacy and providing a chair to clients were likely most commonly practiced.

Moreover, 67 percent (n=6) of the FP providers reported that they always greet their clients, while 33% (n=3) only greet clients sometimes. In addition, the majority (n=7; 78%) of the FP providers reported that they never prescribe methods to the FP acceptors but allow them to choose and decide for themselves. This indicated that most of the FP providers were likely to greet their clients and less likely to prescribe methods to them.

Furthermore, 67% (n=6) of the FP providers counselled FP acceptors on all available methods, while 33% (n=3) only counsel on all methods sometimes. Only 11% (n=1) of the FP providers stated that they always give FP acceptors leaflets, while the majority (89%; n=8) give them sometimes. Additionally, many (78%; n=7) of the FP providers indicated that they always show pictures or samples of methods to clients, while 22% (n=2) do it sometimes. The results demonstrate that FP provider practices were varying in almost all aspects.

4.5.4.3 Family planning provider referral practices by health facility

Table 4.6 below displays health facilities that referred clients to obtain FP and contraceptive methods from other health facilities within the last three months to the time of the study.

Table: 4.6 Family planning provider referral practices by health facility (N=9)

Name of health facility	Yes	No	Total
Donkerhoek clinic	1	0	**1**
Hakahana clinic	1	0	**1**
Katutura Health centre	1	0	**1**
Katutura State Hospital	0	1	**1**
Khomasdal Health centre	1	0	**1**
Okuryangava clinic	1	0	**1**
Otjomuise clinic	1	0	**1**
Robert Mugabe clinic	1	0	**1**
Wanaheda clinic	1	0	**1**
Total	**8**	**1**	**9**
Chi-square	**df**	**Probability**	
9	8	0.3423	

Eight out of the nine FP providers reported that they referred clients to other health facilities within the last three months of the study. A vast majority (n=8; 89%) of the FP providers reported having referred clients to other health facilities. The probability of a client being referred from one health facility to another is 34%. Only Katutura State Hospital, being a referral hospital itself, did not refer out a client for family planning service.

4.5.4.4 Family planning provider referral practices by method

Figure 4.25 below present the type of FP and contraceptive method that the client was referred for to another health facility.

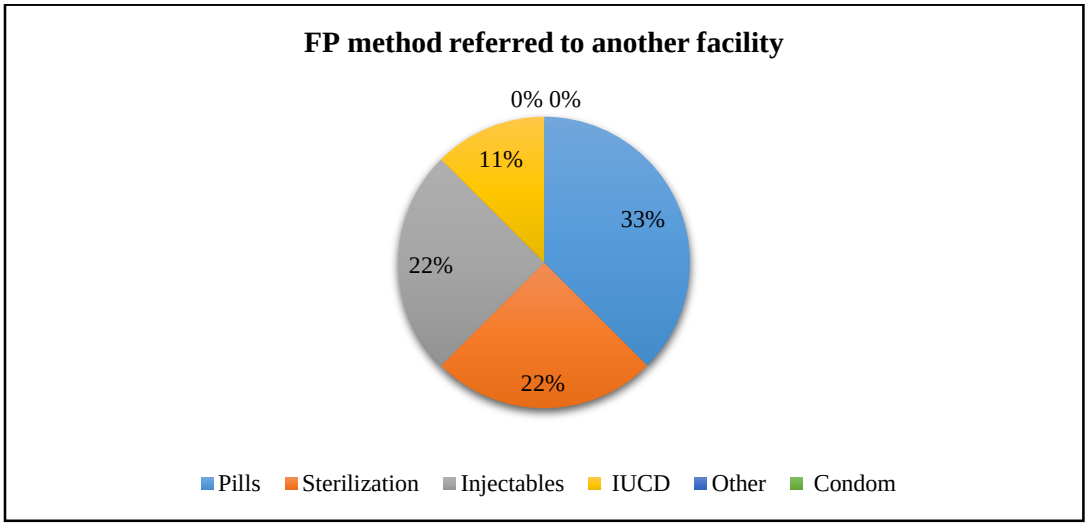

Figure: 4.23 Referral practices by method (N=9)

One third (n=3; 33%) of the FP providers reported that they have referred clients to other health facilities to obtain pills and 22% (n=2) have referred clients to seek sterilization and injectables, respectively, while 11% (n=1) have referred clients for the IUD/IUCD. Providers were less likely

to refer clients to seek the UD/IUCD elsewhere as they would refer clients to go and obtain pills and injectables.

4.5.4.5 Frequency of Family Planning services provision

The FP providers were asked to state the number of days in the week that FP services are provided at their health facilities. The mean number of FP services provision was 4 days (SD 1.6) with a range of one to seven days. This study revealed that the majority of health facilities were providing FP services for an average of 4 days per week.

4.6 SUMMARY

This chapter presented and described the data obtained from face-to-face structured interview with FP acceptors and providers. The data presented reflected on socio-demographic characteristics and the three independent variables, namely; knowledge, attitudes and practices of both the FP acceptors and providers. The statistical analyses that were used in this study were also highlighted throughout the chapter.

The study findings revealed that the IUD/IUCD is unknown among more than half (52%) of the FP acceptors. Overall, specific knowledge content of the IUD/IUCD among the FP acceptors whether on characteristics, benefit, side-effects, who can use the IUD/IUCD and on myths is poor. Despite poor knowledge among FP acceptors, their attitudes with regard to future use and their recommendation of the IUD/IUCD to others is positive. Additionally, only very few (3%) of the FP acceptors reported disapproval by their churches and sexual partners for IUD/IUCD and contraceptives use in general.

Furthermore, the results revealed that the IUD/IUCD is well-known (100%) by the FP providers but the IUD/IUCD is the second least provided method at health facilities, after sterilization. Overall, specific knowledge content of the IUD/IUCD among the FP providers varies between adequate, good, fair and poor. The FP Provider knowledge of the benefit is adequate (100%) and good (89% to 78%) to fair (56%) for the characteristics and side-effects, while 45% had adequate knowledge of the mechanism of action. The attitudes of the FP providers towards the IUD/IUCD is positive, in terms of future intentions to use the IUD/IUCD, willingness to be trained on IUD/IUCD and their recommendation for considering training for both registered and enrolled nurse midwives. Moreover, there was a disparity between the practices of the FP providers as reported by the FP acceptors and as reported by the FP providers themselves. Other most common practices of FP providers include assuring client confidentiality and greeting clients, while method prescription for clients is least practiced. Referral of clients to obtain contraceptive methods from other health facilities is a common practice, mostly for other contraceptive methods other than the IUD/IUCD. The FP services at health facilities in Khomas region are available for an average of 4 days per week. The next chapter will discuss the findings of this research and also relate it to what other researchers have reported in the literature.

CHAPTER 5

DISCUSSION OF THE FINDINGS, CONCLUSIONS, RECOMMENDATIONS AND LIMITATIONS OF THE STUDY

5.1 INTRODUCTION

The main aim of this study was to explore and describe the knowledge, attitudes and practices regarding the IUD/IUCD among FP acceptors and providers in Khomas region, Namibia. Therefore, this chapter discussed the findings of the study and compared these with similar studies conducted in other settings inside or outside the country. The implication of the findings and limitations of the study are also discussed and recommendations are made based on the findings of the study. The findings from the study have revealed some gaps in the knowledge, attitudes and practices of FP acceptors and providers regarding the IUD/IUCD. The conclusions were made based on the objectives and the findings from the study.

5.2 DISCUSSION OF THE FINDINGS FOR FAMILY PLANNING ACCEPTORS AND PROVIDERS REGARDING THE IUD/IUCD

In this study, the researcher explored the knowledge, attitudes and practices regarding the IUD/IUCD among FP acceptors and providers. The discussions focused on the findings related to the socio-demographic characteristics of the FP acceptors and providers as well as the knowledge and attitudes of the FP acceptors to IUD/IUCD and their experiences regarding the practices of the FP providers. Discussions will also be centered on the providers' knowledge and attitudes regarding the IUD/IUCD. Comparative discussion will be made regarding the findings from this study to that of other researchers who have reported on the subject.

5.2.1 Knowledge and attitudes of family planning acceptors regarding the IUD/IUCD

The discussion of the findings of this study are presented in terms of socio-demographic factors, knowledge, attitudes and practices regarding the IUD/IUCD among FP acceptors in Khomas region as per the first objective of the study. In addition, the findings are discussed in relation to other studies done elsewhere.

5.2.1.1 Socio-demographic factors and family planning utilization

Family Planning (FP) and contraceptive methods are offered free of charge at all public health facilities to women of reproductive age (15-49 years) (MoHSS, 2012). However, in this study among women of the reproductive age it was evident that women in their mid-twenties and early thirties (25-34 years) were the more seeking for contraceptives (47%) as compared to adolescents, indicating a missed opportunity in FP service provision among younger women. The finding is similar to that of a recent study conducted in Ethiopia (Tekeleb, Melka, & Wirtu, 2015). In another similar study done in Kenya the majority (49%) of women utilizing contraceptives were aged 25-39 years (Mutombo, Bakibinga, Mukiira, & Kamande, 2014) while in Arkansas, in the United States the majority (61%) of the women were those aged 18 – 29 years (Ragland et al., 2014). In Uganda and Uasin-Gishu county in Kenya the majority, (33% and 47%, respectively), were women aged 21-25 years (Kakaire, Nakiggude, Lule, & Byamugisha, 2014; Kei et al., 2015). It has been stated that adolescents prefer to be served by younger providers, but in this study close to eighty percent (78%, to be precise) of the FP providers were 25 years and above which might have affected the utilization of FP services by adolescents in Khomas region. Nonetheless, this study revealed age disparities which will allow programme managers and supervisors to design

age specific interventions to address the targeted needs of the women of the reproductive age at different stages.

The public health facilities in Khomas region serve a wide range of clients with different educational levels. In this study, FP acceptors with a higher level of education were the majority, which rhymes with recent studies in south east Nigeria and western Ethiopia (Egede, Onoh, Umeora, Iyoke, Dimejesi & Lawani, 2015; Tekeleb et al., 2015). However, in Amhara region, Ethiopia women with lower or no educational level were more likely to accept contraceptives (Mohammed, Woldeyohannes, Feleke, & Megabiaw, 2014). In this study, the level of education seems not to impact on the acceptance of IUD/IUCD among contraceptive users probably due to the limited awareness and inadequate knowledge of the method equally among those with high and low levels of education.

This study revealed that religious beliefs do not seem to play a significant influence in women's access, choice and utilization of contraceptive services. It can be concluded from the findings that being Catholic does not have a greater impact on individuals' decisions to use contraceptives, contrary to popular belief, because even the few women in the study who were Catholic adherents were utilizing the FP services. In a similar study conducted in western Kenya (Mutombo et al. 2014), women who were affiliates of the Catholic faith were in minority, while the majority of contraceptive users in Uganda and Ethiopia were Catholic affiliates (Kakaire et al., 2014; Mota, Reddy, & Getachew, 2015).

Unmarried women held a majority over married women in this study, similar to studies done in Uganda and in Arkansas, United States. (Eko, Osonwa, Osuchukwu, & Offiong, 2013; Ragland et al., 2014). However, in Dschang municipality in Cameroon and in Uganda it was the opposite as married women dominated (Fusi-Ngwa et al., 2013; Kakaire et al., 2014). This could be a reflection of the demographic structure of Khomas region where there appears to be more unmarried women than married women, as the majority who accepted FP were unmarried. It could also mean that being unmarried or single the women prefer not to get pregnant and therefore more likely to go for contraception as compared to married women.

The present study indicated that women with one to four living children were more likely to use FP and contraceptives as compared to women with no living child. Similarly, in Jabalpur city in India more than 50% had one to four living children (Anjum, Durgwale, & Shinde, 2014), while in Zambia more than one third had three to four living children (Mutombo & Bakibinga, 2014). Although there is no limit as to the number of children women/families should have in Namibia, economic conditions have generally made women and families to voluntarily seek contraception if they have one to four children already. Those without a living child would want to have a child or children and would therefore not be enthusiastic candidates for contraception. This study did not explore the future preferences regarding childbearing of the respondents, hence it is difficult to draw a firm conclusion regarding their decision on whether to choose the IUD/IUCD as their choice of contraception.

5.2.1.2 Knowledge of the family planning acceptors regarding the IUD/IUCD

In the present study the IUD/IUCD was the least known modern contraceptive method following sterilization among the FP acceptors, in line with studies in southern Nigeria and Gabon (Eko et al., 2013; Mayi-Tsonga et al., 2014). On the contrary, the IUD/IUCD was one of the most known modern contraception methods in Nairobi County in Kenya and in Gujarat, north east of India (Mbuthia, 2015; Jogiya, Lodhiya, & Chavada, 2014). The limited awareness of the IUD/IUCD among FP acceptors in the present study could attribute to the low rates of IUD/IUCD utilization in Khomas region. In addition, it might also suggest that the FP counseling by providers might be inadequate.

The results from this study indicated that the majority of the FP acceptors who were aware of the IUD/IUCD had inadequate specific knowledge content in most aspects, such as characteristics, benefit, side-effects, identifying the suitable women who can use the IUD/IUCD and dispelling the myths that are associated with it. A study conducted in Gujarat, north east of India revealed inadequate knowledge among women as the majority could not dispel various myths that are associated with the IUD/IUCD (Jogiya et al., 2014), comparable to the present study. A study conducted in Thailand-Burma border also revealed the myths surrounding IUDs/IUCDs (Gedeon et al., 2015). Having inadequate specific knowledge on IUD/IUCD could well mean that the FP providers are not likely to confidently counsel clients on the choice of IUD/IUCD as a contraceptive method.

5.2.1.3 Attitudes of the family planning acceptors regarding the IUD/IUCD

During the data collection process, the researcher took time to describe and display a sample of the copper IUD/IUCD to the respondents and explained how it could be used. Generally, this might have resulted in the majority (86%) of the respondents in this study showing positive attitudes about its future use and being able to recommend it to family members and friends. In Gujarat, north east of India, only close to half of the women were positive about using the IUD/IUCD in future and these were women who previously used the method for more than one month (Jogiya, Lodhiya, & Chavada, 2014). The detailed description of the copper IUD/IUCD and the sample shown to FP acceptors might have impacted on their attitudes. Based on these it may be concluded that the role of FP providers in providing contraception specific knowledge should be prioritized as it has been shown to have the potential to increase IUD/IUCD utilization in future.

It can be concluded from the current study results that the important role that men play in the decision of women to use of contraceptive was evident, because only a small proportion (3%) of the FP acceptors' reported husbands or partners disapproved contraceptive use. Similarly, husband or partner disapproval was reported in small percentages (6%) in a study conducted in southern Nigeria (Eko et al., 2013). In contrast, many women in western Kenya, reported husband disapproval for contraceptive use (Mohammed et al., 2014). Equally in this present study results revealed that very few (3%) of the FP acceptors mentioned disapproval for contraceptive utilization by their religion even though they use them. There is substantial evidence that reveals low or non- contraceptive use with religious affiliation (Daniels, Mosher, & Jones, 2013).

5.2.1.4 Family planning acceptors' experience regarding the practices of family planning providers

A welcoming and ambient service environment promotes great client experience and enhances service utilization and retention. As revealed in this present study the majority of FP providers have demonstrated good practices of welcoming clients with greeting and making their clients comfortable during consultations. They were however less likely to inform them of all available methods, or assuring them of their privacy and confidentiality, or display them samples or pictures of the different methods of contraception. Although there is no literature specifically related to practices in FP services, a study conducted in East and southern Africa, described privacy, confidentiality and offering greeting to clients as dignifying and respectful quality improvement activities and overall 83% women were treated with dignity and respect during pregnancy and childbirth (Rosen, Lynam, Carr, Reis, Ricca, Bazant, & Barlet, 2015). In Kenya, fewer providers in public health facilities were observed to build rapport with their clients in terms of greeting the client, ensuring privacy or confidentiality during postnatal care consultations as compared to providers in private health facilities (Warren, Abuya, Kanya, Obare, Njuki, Temmerman, & Bellows, 2015). Assuring clients privacy and confidentiality builds trust between the client and the service provider, boosts confidence of the client in the services and ensures revisit and retention in service. Where these are lacking clients may be lost to the service or complain incessantly about poor quality service.

5.2.2 Knowledge, attitudes and practices of family planning providers regarding the provision of the IUD/IUCD

The discussion of the findings of this study are presented in terms of socio-demographic factors, knowledge, attitudes and practices regarding the IUD/IUCD among FP providers in Khomas region in accordance to the second objective of the study. Furthermore, the discussion of the findings of this study are related to other similar studies conducted elsewhere by other researchers.

5.2.2.1 Socio-demographic characteristics of family planning providers in Khomas region

FP services have traditionally been seen as the domain for women. This has led to the tendency for both the providers and acceptors of FP services to be dominated by the women folk. In line with studies conducted in Nepal and Southern Africa, this study has revealed that in all the nine health facilities that this study covered, the FP services were provided by female health workers. (Chakraborty et al., 2015; Morse et al., 2013). These findings may suggest that only female providers were allocated to FP services at health facilities and there might be more female providers than males on those specific days. Literature has revealed that nursing has been perceived by many as a female profession (Kulakac, Arslan, Dag, & O'Lynn, 2015; Zamanzadeh, Valizadeh, Negarandeh, Monadi, & Azadi, 2013), and in many instances health care managers or supervisors might deliberately delegate female providers to FP services, since it is often regarded as a sensitive issue.

The results of the present study also indicated that FP services were provided by registered - and enrolled nurse/midwives, which is a little different from other studies in Nepal where FP providers comprised of auxiliary nurses and nurse midwives (Chakraborty et al., 2015). A study conducted

in Southern Africa found that FP providers comprised nurses and physicians (Morse et al., 2013). All these results confirm that the type of provider might not have an impact on the provision of FP services as long as they have the same training and practical exposure of providing FP. In the absence of comparable studies, in the current study more FP providers belonged to the Lutheran or Anglican faith than to Catholics, Pentecostal, other religion or those with no religious affiliation. The religious affiliation of the provider did not seem to affect their willingness to provide the FP service.

This study revealed that many FP providers had a good number of years of experience, three years and more, working with FP clients but then none of them were specifically trained on IUD/IUCD provision. The lack of training and empowerment of the providers with specific skills on provision of IUD/IUCD resulted in poor specific knowledge content on IUD/IUCD by the FP providers, hence their inability to counsel clients and offer choice of IUD/IUCD as a contraceptive in most of the facilities this research covered. No research or literature could be found that looked at the years of experience of FP providers in other settings.

5.2.2.2 Family planning provider knowledge regarding the IUD/IUCD

All FP providers were aware of the IUD/IUCD as found with studies conducted in Nepal and Southern Africa (Morse et al., 2013; Chakraborty et al., 2015). One important finding from the present study is that not all the FP providers knew what an IUD/IUCD looks like. This may imply that those FP providers who have not seen it might not recommend or counsel their clients on its choice. This study also revealed that all FP providers had adequate knowledge of the benefits of the IUD/IUCD, its duration of effectiveness and the non-health benefit to the client, that it does

not require frequent clinic or hospital visits once inserted. The researcher did not find similar studies which explored and described knowledge of providers regarding the IUD/IUCD benefits, the duration of effectiveness, and economic effects to the clients as described in this present study.

Even though a large proportion (90%) of FP provider in Nepal (Chakraborty, et. al, 2015) as well as 45% in this current study knew the main mechanism of action of the copper IUD/IUCD, in both settings the specific knowledge content was inadequate. It may be concluded that some providers may not be able to correctly counsel clients regarding the main mechanism of action and the specific indications for the use of the copper IUD/IUCD.

This study revealed that inadequate knowledge among some of the FP providers about the characteristics, suitable candidates for the IUD/IUCD and the myths that are associated with it. In Chile, some providers could not recognize the IUD/IUCD as an effective, long-acting and reversible contraceptive method as its characteristics, hence knowledge was described to be inadequate (Bahamondes, Makuch, Monteiro, Marin, & Lynene, 2015). A study conducted in India stated that providers prohibited young, unmarried and nulligravida women to use IUDs/IUCDs, while in the United States providers failed to identify women who are suitable for the IUD/IUCD, which indicated inadequate knowledge among providers (Calhoun, Speizer, Rimal, Sripad, Chatterjee, Achyut, & Nanda, 2013; Harper, Henderson, Raine, Goiodman, Darney, Thomson, Dehlendorf, & Speidel, 2012). Furthermore, widespread myths regarding the IUD/IUCD was shared among providers (Moreau, Bohet, Hausson, Ringa, & Bajos, 2014). The results of this study indicated that most of the FP providers would not be able to give correct information to potential

IUD/IUCD users which might have an adverse effect on the FP acceptors decision of choosing the IUD/IUCD especially for those women who do not want children any more.

5.2.2.3 Family planning provider attitudes regarding the IUD/IUCD

In this study none of the FP providers received training on IUD/IUCD, hence all recommend future training for all registered and enrolled nurse midwives, unlike in a study conducted in Southern Africa, where close to two-thirds (63%) of the providers were trained on FP and only about half (49%) indicated that they would need additional training on the IUD/IUCD (Morse et. al, 2013). In addition, all the FP providers stated that they will recommend the IUD/IUCD to their clients, but this will be practical only if they are trained. The attitudes of FP providers were positive towards the IUD/IUCD as they indicated willingness to be trained to enable them to provide the IUD/IUCD to potential users.

5.2.2.4 Family planning provider practices regarding the IUD/IUCD

Generally, the literature on FP provider practices were limited, because only some aspects, such as privacy, confidentiality, availability of contraceptive methods and frequency of FP services were found during the literature search (MoHSS & ICF Macro, 2010). Almost all other literature reviewed focused on describing FP provider practice of methods as in use or methods prescribing and not practices as defined in this study.

Results of this study revealed that the IUD/IUCD was the least provided contraceptive method after sterilization. It also came out that all FP providers were most likely to assure their clients of confidentiality, while the majority more likely ensured privacy and comfort during consultations, while in a another study in Namibia FP providers were more likely to greet clients than ensuring

their privacy (MoHSS & ICF Macro, 2010). Moreover, the likelihood of FP acceptors being presented with contraceptive information materials or samples of the available contraceptive methods at health facilities was much higher (85%) (MoHSS & ICF Macro, 2010), compared to 78% in this current study in Khomas region. The finding in this study indicated that availability and utilization of information, education and communication materials, including the use of FP posters and displaying samples of contraceptive methods to clients during counselling is not a common practice among FP providers in Khomas Region. This impacts on the quality of FP services as it limits clients' choices, including the use of IUD/IUCD.

At some health facilities, FP providers had referred clients to other health facilities due to un-availability of the IUD/IUCD at their health facilities. The probability of a client being referred from one health facility to another was 34%. Hence, providers were less likely to refer clients to seek the UD/IUCD elsewhere as they would refer clients to go and obtain pills and injectables which could be due to a low awareness of the IUD/IUCD among the FP clients and the low level of specific knowledge on IUD/IUCD among the FP providers.

The MoHSS (2012) has stated in its guidelines that all clinics and health centres in Namibia should provide FP services on daily basis. The present study found that health facilities were more likely to provide FP services 4 days per week. This translates into limited access to FP services at some health facilities which may negatively affect the utilization of FP and contraceptive methods and impact on unmet needs for family planning in the country.

5.3 CONCLUSIONS OF THE STUDY

The main objectives of the study were to explore and describe the knowledge and attitudes of FP acceptors regarding the IUD/IUCD and to recommend actions that the MoHSS and its development could take to improve the utilization of the IUD/IUCD as a contraceptive method at health facilities in Khomas Region. Based on the objectives of the study the following conclusions were drawn:

5.3.1 Objective 1: Explore and describe the knowledge and attitudes of family planning acceptors regarding the IUD/IUCD

The result of this study not only has established that there are limited awareness about the IUD/IUCD among the FP acceptors but has also confirmed inadequate knowledge in most of the specific knowledge content aspects. It has however revealed positive attitudes among FP acceptors towards future IUD/IUCD utilization and to recommend the use to other FP acceptors.

5.3.2 Objective 2: Explore and describe the knowledge, attitudes and practices of family planning providers regarding the provision of the IUD/IUCD

All FP providers knew of the IUD/IUCD, but some of them have never seen an IUD/IUCD. Even though all FP providers were aware of the IUD/IUCD, their specific knowledge content on various aspects of the device as a contraceptive was inadequate. However, the attitudes of the FP providers about the IUD/IUCD were positive. This study has further revealed that a number of practices that support quality FP services were commonly practiced, while a few aspects were less practiced by providers. There were some discrepancies between the report of FP providers and the experience of acceptors concerning practices in support of quality FP services.

5.3.3 Objective 3: Recommended actions that the MoHSS and its development partners could take to improve the utilization of the IUD/IUCD as a contraceptive method at health facilities in Khomas region

The limited awareness and inadequate knowledge of the IUD/IUCD among the FP acceptors and providers might be an indication that additional education about the method is needed in Khomas region. Such efforts should be culturally tailored and address the understanding of the acceptors and providers regarding the characteristics, benefits, main mechanism of action, side-effects, suitable women who can use the method and the myths associated with the IUD/IUCD. Additionally, increased financial resources will be needed to address the issue of training of providers and make IUDs/IUCDs available and accessible at all public health facilities.

5.4 RECOMMENDATIONS

The following recommendations are made for the all actors in the family planning programme in Khomas region in line with the findings of the study:

5.4.1 Improve knowledge of the IUD/IUCD among family planning acceptors and providers

There is a need to review the FP programme in order to raise awareness on the IUD/IUCD at health facilities and in communities together with stakeholders through the media and other forums, such as the radio, television, development of information, education and communication materials for dissemination to the public. Also, conducting awareness meetings in the communities and holding of seminars and workshops will go a long way to improve awareness on IUD/IUCD and other

contraceptive methods. The Ministry of Health and Social Services should take the lead in this regard and work collaboratively with NGOs and community based organizations.

There is a need to build the capacity of registered and enrolled nurse midwives who are delegated with the task of providing FP services through training in order to equip them with the necessary knowledge and skills, and to enable them to provide appropriate services. This is the responsibility of MoHSS and its development partners.

5.4.2 Improve provider practices that support quality family planning services

There is a need to improve availability of FP services by ensuring that all health facilities are equipped with trained FP providers and that all contraceptive methods are available on daily basis to avoid unnecessary referrals.

There is need for in-service training and orientation of FP providers on the importance of building open, friendly, trustful relationships and creating a welcoming atmosphere for clients through practices that support quality FP service provision. These may include practices, such as greeting, offering a chair to clients to make them comfortable during consultation, assuring confidentiality and privacy. In addition, practices of informing FP acceptors of all available contraceptive methods, showing them how the different contraceptive methods look like and explaining how each method works should be incorporated in the trainings. Furthermore, FP providers should be trained or oriented on the importance of explaining to FP acceptors other important aspects of potential side-effects and how to manage them if they occur. A comprehensive review of the FP training curriculum should jointly be undertaken by the Ministry of Health and Social Services,

training institutions such as the National Health Training Centre, the University of Namibia, International University of Management, Welwitschia University and the development partners.

5.5 RECOMMENDATION FOR FUTURE RESEARCH

This study has underscored significant findings, while its limitations have also been highlighted. The study focused on public health facilities in only one (1) region out of the fourteen (14) regions of the country, and excluded the private health facilities and consulting rooms that are providing similar services. Therefore, there might be a need for a country-wide study to explore the knowledge, attitudes and practices of FP acceptors and providers especially in the private sector.

Only women as FP acceptors were included in the study excluding their husbands or partners hence responses regarding the approval of contraceptive use by husband or partner was subjective. Therefore, future studies can also concentrate on attitudes of men towards the IUD/IUCD or modern contraceptives in general.

5.6 LIMITATIONS OF THE STUDY

The findings should be interpreted in the context of the limitations of the study. The sample was drawn from public health facilities in only one (1) region out of the fourteen (14) regions, and not all public health facilities in the selected region were included in the study. In addition, the private health facilities and consulting rooms that are providing FP services were not part of this study. Thus, the ability to generalize the findings to all the regions and all the health facilities in Khomas region is limited as the sample was not representative.

Moreover, a small sample of FP providers was interviewed and as a result the findings may not be generalized to all FP providers in Khomas region or Namibia. The possibility of response bias from the FP provider respondents cannot be ruled out, for instance they may have answered some of the questions, particularly on the attitudes and practices about the IUD/IUCD in a way that they thought would please the researcher rather than based on their real attitudes and actual practices.

5.7 SUMMARY

In this chapter findings from the study were discussed in detail and compared with similar studies carried out elsewhere and the implications thereof highlighted. The limitations of the study and recommendations from the study including areas for future research on the topic were also highlighted. All the objectives of the study were achieved. The utilization of the IUD/IUCD in Khomas region emerged as an area of concern. This is evident by the persistent low rate of IUD/IUCD utilization for almost three decades now. It is therefore imperative to device strategies that will improve knowledge, attitudes and practices of FP acceptors and providers regarding the IUD/IUCD.

Overall, this study has revealed that FP acceptors older than 19 years of age, who were Lutheran or Anglican religion affiliates, who had one to four living children and at least a secondary education were more likely to utilize FP services in Khomas Region. The study has also revealed adequate awareness of the IUD/IUCD among FP providers, while FP acceptor awareness was inadequate. Furthermore, inadequate specific knowledge content on the characteristics, benefit, side-effects, suitable women who can use the IUD/IUCD and about the myths that are associated with the IUD/IUCD was found among FP acceptors and providers. Generally, positive attitudes towards the IUD/IUCD from both FP acceptors and providers was evident in this study.

Results regarding provider practices revealed that they most commonly assure clients of confidentiality and commonly assured them privacy and made them comfortable by offering chairs. However, FP acceptors experiences indicated that providers most commonly welcomed them with a greeting and made them comfortable with chairs while assurance of privacy and confidentiality were reported as not commonly practiced.

On the basis of the findings of this study, key recommendations for the FP acceptors and providers highlight the need to review the FP programme and to build the capacity of FP providers in order to provide appropriate services. The need to improve availability of FP services and all contraceptive methods on daily basis to avoid unnecessary referrals was also recommended by this study. Moreover, this study recommended the need for more in-service training and orientation of FP providers on important aspects and practices that support quality FP service provision.

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Questionnaire for FP Acceptor

Name of Facility: _____ **QID:** ---

Facility Type: 1. Clinic ☐ 2. Health Centre ☐ 3. Hospital ☐

S1: Socio-Demographic Characteristics

S1Q1. Age category	1. 15-19 ☐ 2. 20-24 years ☐ 3. 25-34 ☐ 4. 35 and above ☐
S1Q2. Educational level	1. Primary ☐ 2. Secondary ☐ 3. Tertiary ☐ 4. None ☐
S1Q3. Marital status	1. Married ☐ 2. Unmarried ☐ 3. Others ☐
S1Q4. Religion	1. ELCRN/Anglican ☐ 2. Catholic ☐ 3. Pentecostal ☐ 4. None/Other ☐

S2: Selected pregnancy history characteristics

S2Q1. No. of pregnancies	1.0 ☐ 2. 1-4 ☐ 3. 5-9 ☐ 4. 10 and more ☐
S2Q2. No. of children alive	1. 0 ☐ 2. 1-4 ☐ 3. 5-9 ☐ 4. 10 and more ☐

S3. Practices

S3Q1. Were you ever told about the types of FP methods provided in this facility or by referral?	1.Yes 2. No
S3Q2. Where you ever shown pictures or samples of contraceptive methods?	1.Yes 2. No
S3Q3. Where you ever explained how each type of FP method works?	1.Yes 2. No
S3Q4. Who made the decision of which FP method to use?	1.Yes 2. No
S3Q5. Do you think you were thoroughly explained how to use the method you have chosen/given?	1.Yes 2. No
S3Q6. Were you ever explained about the potential side-effects?	1.Yes 2. No
S3Q7. Where you ever explained what to do if you experience side-effects?	1.Yes 2. No
S3Q8. Where you ever asked to repeat what the provider has explained to you on how to use the method you have chosen/given?	1.Yes 2. No
S3Q9. Did the provider greeted you?	1.Yes 2. No
S3Q10. Were you offered a chair to sit on?	1.Yes 2. No
S3Q11. Were you alone with the provider in the consultation room (Privacy)?	1.Yes 2. No
S3Q12. If NO to S3Q11, Explain who else was there in the consulting room. (Tick all mentioned)	1. Other nurses ☐ 2. Other clients ☐ 3. Students ☐ 4. Others ☐
S3Q13. Did the provider assured you that whatever you discuss will be between the two of you and that you will not be referred to another provider without your permission if need be. (Confidentiality/shared confidentiality?	1. Yes ☐ 2. No ☐
S3Q14. Do you feel you got the help you needed today?	1. Yes ☐ 2. No ☐

S3Q15. How will you rate the service you received today by the FP provider?	Excellent ☐ Very good ☐ Good ☐ Satisfactory ☐ Poor ☐

S4. Knowledge

S4Q1. Name all FP methods that you know of? (Circle all that are mentioned)	1. Pills ☐ 2. Injectables ☐ 3. Condom ☐ 4. IUD/IUCD ☐ 5. Sterilization ☐ 6. Others ☐		
S4Q2. Have you ever heard of an IUD/IUCD? (if no, stop and start with S5)	1. Yes ☐	2. No ☐	
S4Q3. What do you say about the following regarding the IUD/IUCD? (Read out and circle response)			
1. Long-lasting	1.Yes	2. No	99.Don't Know
2. Temporary	1.Yes	2. No	99.Don't Know
3. Highly effective	1.Yes	2. No	99.Don't Know
4. No delay in return of fertility after removal	1.Yes	2. No	99.Don't Know

5. No protection against STIs/HIV/AIDS	1.Yes	2. No	99. Don't know
6. No interference with sexual intercourse	1.Yes	2. No	99. Don't know
7. Can be used by a person infected with HIV or on ARV treatment and clinically well	1.Yes	2. No	99. Don't know
1. Prolonged and heavy menstrual bleeding.	1.Yes	2. No	99.Don't Know
2. Irregular bleeding.	1.Yes	2. No	99.Don't Know
3. More cramps and pain during menstrual bleeding.	1.Yes	2. No	99.Don't Know
S4Q6. The following women can use an IUD/IUCD? (Read out and circle response)			
1. Have or have not had children	1. Yes	2. No	99.Don't Know
2. Are not married	1. Yes	2. No	99.Don't Know
3. Are of any age including adolescents and those above age 40	1. Yes	2. No	99.Don't Know
4. Have just had an abortion or miscarriage with no evidence of infection	1. Yes	2. No	99.Don't Know
5. Are breast feeding	1. Yes	2. No	99.Don't Know
6. Do hard physical work	1. Yes	2. No	99.Don't Know
7. Have had an ectopic pregnancy	1. Yes	2. No	99.Don't Know
8. Have had PID	1. Yes	2. No	99.Don't Know
9. Have anemia	1. Yes	2. No	99.Don't Know
10. Are infected with HIV or on ARV and clinically well	1. Yes	2. No	99.Don't Know

S5. Attitude

S5Q1. Are you currently using an IUD/IUCD?	1. Yes ☐	2. No ☐
S5Q2. (If No to S6Q1) Will you consider using an IUD/IUCD in future?	1. Yes ☐	2. No ☐

S5Q3. If No to S5Q2, explain why	1. Yes ☐ 2. No ☐
S5Q4. Will you recommend the use of an IUD/IUCD to a friend, family member, or anyone?	1. Yes ☐ 2. No ☐
S5Q5. Does your church or religion disapprove use	1. Yes ☐ 2. No ☐
S5Q6. If Yes to S5Q4, indicate which FP methods.	1. Modern ☐ 2. Natural ☐ 3. All ☐
S5Q7. Does your partner disapprove use of FP methods?	1. Yes ☐ 2. No ☐
S5Q8. If Yes to S5Q6, indicate which FP methods. Modern=OCP, Injectables, Condoms, IUD/IUCD, tubal ligation, vasectomy Natural=LAM, Withdrawal, abstinence, FAMs	1. Modern ☐ 2. Natural ☐ 3. All ☐

S6. Recommendations

S6Q1. Do you have anything to recommend regarding IUD/IUCD service provision?	1. Yes ☐ 2. No ☐
S6Q2. If yes, What are you recommending?	

Thank you for your time

Questionnaire for FP provider

Name of Facility: _____ **QID:** ---

Facility Type: 1. Clinic ☐ 2. Health Centre ☐ 3. Hospital ☐

Respondent job title:

1. Dr ☐ 2. RN/M ☐ 3. R/N ☐ 4. EN/M ☐ 5. E/N ☐ 6. Others ☐

S1: Socio-Demographic Characteristics

S1Q1. Age category	1. <24 ☐ 2. 25-34 ☐ 3. >35 ☐ 4. 45-54 ☐ 5. 55 and above ☐
S1Q2. Gender	1. Male ☐ 2. Female ☐
S1Q3. Number of years of practice	1. 0 ☐ 2. 1-2 yrs ☐ 3. 3-4yrs ☐ 4. 5-10 ☐ 5. >10 ☐
S1Q4. Number of years providing FP	1. <2yrs ☐ 2. 3-5 yrs ☐ 3. 6-9yrs ☐ 4. >10yrs ☐

S1Q5. Marital status	1. Married ☐ 2. Not married ☐
S1Q6. Religion	1.ELC/Anglican ☐ 2. Catholic 3. Pentecostal ☐ 4. Other ☐

S2. Practices

S2Q1. Which FP methods are provided in Namibia's public health facilities? (Tick all that are mentioned)	1. Pills ☐ 2. Injectables ☐ 3. Condoms ☐ 4. IUD/IUCD ☐ 5. Sterilization ☐ 6. Others ☐
S2Q2. Which FP methods are provided in this facility? (Tick all that are mentioned)	1. Pills ☐ 2. Injectables ☐ 3. Condoms ☐ 4. IUD/IUCD ☐ 5. Sterilization ☐ 6.Others ☐
S2Q3. In your counseling do you mention to clients all FP methods provided at this facility or by referral?	1. Always ☐ 2. Sometimes ☐ 3. Never ☐
S2Q4. Do you show pictures or samples of contraceptive methods to your client/s?	1. Always ☐ 2. Sometimes ☐ 3. Never ☐
S2Q5. Do you explain to client/s how each method works? (mode of action,	1. Always ☐ 2. Sometimes ☐ 3. Never ☐

characteristics, benefits, side-effects, etc.)	
S2Q6. Do you choose for client/s which method to use?	1. Always ☐ 2. Sometimes ☐ 3. Never ☐
S2Q7. Do you explain to client/s how to use the method chosen/given?	1. Always ☐ 2. Sometimes ☐ 3. Never ☐
S2Q8. Do you give client/s a leaflet with specific information explaining about the chosen/given method?	1. Always ☐ 2. Sometimes ☐ 3. Never ☐
S2Q9. Do you have leaflets on specific FP methods in this facility? (Ask to see one)	1. Always ☐ 2. Sometimes ☐ 3. Never ☐
S2Q10. Do you explain the potential side-effects to client/s for the method given?	1. Always ☐ 2. Sometimes ☐ 3. Never ☐
S2Q11. Do you explain to client/s what to do if they experience side-effects?	1. Always ☐ 2. Sometimes ☐ 3. Never ☐
S2Q12. Do you ask the client/s to repeat what you explained to her/them about how to use the method chosen/given?	1.Always ☐ 2. Sometimes ☐ 3. Never ☐
S2Q13. Within the last 3 months, did you ever refer a client to another facility for FP while working in this facility/region?	1.Yes ☐ 2. No ☐
S2Q14. If Yes to S2Q13, indicate which methods. ? (Tick all that are mentioned)	1. Pills ☐ 2. Injectables ☐ 3. Condoms ☐ 4. IUD/IUCD ☐ 5. Sterilization ☐ 6. Others ☐
S2Q15. How many days of the week do this facility provide FP services?	☐☐

S3. Practices

S3Q1. Do you greet your clients?	1. Always ☐ 2. Sometimes ☐ 3. Never ☐
S3Q2. Do you offer a chair to your clients to sit on?	1. Always ☐ 2. Sometimes ☐ 3. Never ☐
S3Q3. Do you provide FP services in a private room (Privacy)?	1. Always ☐ 2. Sometimes ☐ 3. Never ☐
S3Q4. If Sometimes or Never to S3Q3, Explain	1. Always ☐ 2. Sometimes ☐ 3. Never ☐
S3Q5. Do you assure client/s that whatever you discuss will be between you and the client(s) (Confidentiality?	1. Always ☐ 2. Sometimes ☐ 3. Never ☐
S3Q6. Do you assure clients that you will not refer them to another provider without their permission? (shared-confidentiality)	1. Always ☐ 2. Sometimes ☐ 3. Never ☐
S3Q7. Do you feel that you provide all the help that client(s) need at FP visits?	1. Yes ☐ 2. No. ☐
S3Q8. If No to S3Q7, please explain.	

S4. Knowledge

S4Q1. Have you ever heard of an IUD/IUCD?	1. Always ☐ 2. Sometimes ☐ 3. Never ☐
S4Q2. Have you ever seen an IUD/IUCD?	1. Always ☐ 2. Sometimes ☐ 3. Never ☐
S4Q3. If YES to S4Q1, how many types of IUD/IUCD do you know? (Circle one answer)	1.One 2. Two 3. Other
S4Q4. Which type of IUD/IUCD is available at public health facilities? (Circle one answer)	1. Copper 2. Hormonal 3. Other
S4Q5. What is the mechanism of action (primary mode of action) of the Copper - IUD/IUCD? (Read out all and circle one response)	1. Causes a chemical change that damages sperm and egg before they can meet. 2. Prevent the release of an egg from the ovaries (ovulation) 3. Thickening of the cervical mucus

	4. Forms a barrier that prevent the sperms from entering the vagina 99. Don't know 20. Others		
S4Q6. What do you say about the following statements regarding the Copper – IUD/IUCD? (Read out all and circle response)			
1. Long-lasting	1.Yes	2. No	99. Don't Know
2. Temporary	1.Yes	2. No	99. Don't Know
3. Highly effective	1.Yes	2. No	99. Don't Know
4. No delay in return of fertility after removal	1.Yes	2. No	99. Don't Know
5. No protection against STIs/HIV/AIDS	1.Yes	2. No	99. Don't Know
6. No interference with sexual intercourse	1.Yes	2. No	99. Don't Know
7. Can be used by a person infected with HIV or on ARV treatment and clinically well	1.Yes	2. No	99. Don't Know
S4Q5. What would you say are the benefits of using the Copper-T IUD/IUCD?			
1. Do not require frequent visits to facilities unlike pills, injectables or condom.	1. Yes	2. No	99.. Don't know
2. Offer long-lasting protection from pregnancy	1. Yes	2. No	99.. Don't know
3. Has no further costs after insertion	1. Yes	2. No	99.. Don't know
S4Q6. What are the common side-effects after insertion of the Copper-T IUD/IUCD?			
1. Prolonged and heavy menstrual bleeding.	1. Yes	2. No	99.. Don't know
2. Irregular bleeding.	1. Yes	2. No	99.. Don't know
3. More cramps and pain during menstrual bleeding.	1. Yes	2. No	99.. Don't know

S4Q7. Who of the following women can use a Copper-TIUD/IUCD?	
1. Have or have not had children	1. Yes 2. No 99.. Don't know
2. Are not married	1. Yes 2. No 99.. Don't know
3. Are of any age including adolescents and those above age 40	1. Yes 2. No 99.. Don't know
4. Have just had an abortion or miscarriage with no evidence of infection	1. Yes 2. No 99.. Don't know
5. Are breast feeding	1. Yes 2. No 99.. Don't know
6. Do hard physical work	1. Yes 2. No 99.. Don't know
7. Have had an ectopic pregnancy	1. Yes 2. No 99.. Don't know
8. Have had PID	1. Yes 2. No 99.. Don't know
9. Have anemia	1. Yes 2. No 99.. Don't know
10. Are infected with HIV or on ARV and clinically well	1. Yes 2. No 99.. Don't know

S4Q8. Do you agree with the following statements about the Copper-T IUD/IUCD?	
1. IUD/IUCD causes cancer	1. Yes 2. No 99.. Don't know
2. IUD/IUCD causes infertility	1. Yes 2. No 99.. Don't know
3. IUD/IUCD rarely causes PID	1. Yes 2. No 99.. Don't know
4. IUD/IUCD causes birth defects	1. Yes 2. No 99.. Don't know
5. IUD/IUCD causes discomfort or pain during sex	1. Yes 2. No 99.. Don't know
6. IUD/IUCD causes ectopic pregnancy	1. Yes 2. No 99.. Don't know
7. IUD/IUCD moves to the heart and brain	1. Yes 2. No 99.. Don't know
8. IUD/IUCD increases the risk of miscarriage after removed	1. Yes 2. No 99.. Don't know
9. IUD/IUCD increases the risk of contracting HIV/STIs	1. Yes 2. No 99.. Don't know

S5. Attitude

S5Q1. Are you trained to insert and remove an IUD/IUCD?	1. Yes ☐ 2. No ☐
S5Q2. (If No to S5Q1) do you think you can be trained?	1. Yes ☐ 2. No ☐

S5Q3.If No to S5Q2, Please explain.	
S5Q4. Would you recommend the use of an IUD/IUCD to clients or any other person?	1. Yes ☐ 2. No ☐
S5Q5. If No to S5Q4, Please explain.	
S5Q6. Would you agree with training of IUD/IUCD insertion and removal for RN/M and EN/M?	1. Yes ☐ 2. No ☐
S5Q7. If No to S5Q6, Please explain.	

S6. Recommendations

S6Q1. Do you have any recommendations regarding IUD/IUCD service provision?	1. Yes ☐ 2. No ☐
S6Q2. What would you like to recommend? (Maximum 3 recommendations)	1. _____ 2. _____ 3. _____

Thank you very much for your time.

INTRODUCTION AND CONSENT

I am Frieda Taapopi a student from the University of Namibia and an employee of the Ministry of Health and Social Services (MoHSS). I am here to conduct a study in order to explore the knowledge, attitudes and practices regarding the Intrauterine Contraceptive Device (IUD/IUCD) among family planning providers (nurses) and acceptors (new and continuing users) in Khomas region, Namibia.

Therefore I would like to ask you questions about what you know, what you belief or think of the IUD/IUCD as a contraceptive method. Your participation will provide me with the needed information and will help to inform the MoHSS policy makers, family planning programme managers and other stakeholders on developing better ways of providing IUD/IUCD and family planning services in general.

The interview will last for about 30-45 minutes and all the answers you give will be confidential. You have the right to refuse to take part or withdraw your participation at any stage of the interview.

Do you agree to participate? (Tick answer) Yes ☐ No ☐

Date of interview (DD/MM/YYYY) /_____/_____/_____/

Signature of interviewer: _____

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All correspondence must be addressed to the Office of the Associate Dean

LETTER OF PERMISSION:
POST GRADUATE STUDENTS

Date: 08 January 2013

Dear Student: Ms. Frieda Taapopi
(Student Number: 9001301)

The post graduate studies committee has approved your research proposal.

EXPLORING THE KNOWLEDGE, ATTITUDES AND PRACTICE REGARDING THE INTRAUTERINE CONTRACEPTIVE DEVICE (IUCD/IUD) AMONG FAMILY PLANNING PROVIDERS AND ACCEPTORS IN KHOMAS REGION, NAMIBIA

It may be required that you need to apply for additional permission to utilize your target population. If so, please submit this letter to the relevant organizations involved. It is stressed that you should not proceed with data collection and fieldwork before you have received this letter and got permission from the other institutions to conduct the study. It may also be expected that these organizations may require additional information from you.

Please contact your supervisors on a regular basis

Ms. L. van der Westhuizen
Deputy Associate Dean (SoNPH)

9-0/0001

REPUBLIC OF NAMIBIA

Ministry of Health and Social Services

Private Bag 13198 **Ministerial Building** **Tel: (061) 2032125**
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Namibia **Windhoek** **E-mail:msimasiku@mhss.gov.na**
Enquiries: Mr.M.Simasiku **Ref.:** 17/3/3 **Date:** 10 May 2013

OFFICE OF THE PERMANENT SECRETARY

Ms Frieda N. Taapopi
P.O. Box 5188
Ausspannplatz
Windhoek

Dear Ms Taapopi

Re: Exploring the knowledge, attitudes and practice regarding the Intrauterine Contraceptive Device (IUCD/IUD) among Family Planning providers and acceptors in Khomas region, Namibia.

1. Reference is made to your application to conduct the above-mentioned study.

2. The request has been evaluated and found to have merit.

3. **Kindly be informed that permission to conduct the study has been granted under the following conditions:**

3.1 The data collected must only be used for purpose stated in the proposal and the permission requesting letter;
3.2 No other data should be collected other than the data stated in the proposal;
3.3 A quarterly report to be submitted to the Ministry's Research Unit;
3.4 Preliminary findings to be submitted upon completion of study;
3.5 Final report to be submitted upon completion of the study;
3.6 Separate permission to be sought from the Ministry for the Publication of the findings.

Yours sincerely,

MR. ANDREW NDISHISHI
PERMANENT SECRETARY

PERMANENT SECRETARY
Republic of Namibia
MINISTRY OF HEALTH AND SOCIAL SERVICES