UTILIZATION OF FAMILY PLANNING METHODS AMONG WOMEN ON ANTI RETROVIRAL THERAPY IN DEDZA DISTRICT, MALAWI

MASTER OF SCIENCE (COMMUNITY HEALTH NURSING) THESIS

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NOVEMBER, 2015

Declaration

I, Nancy Namijingo Kamwendo hereby declare that this thesis is my own original work and has not been submitted in candidature for any other degree at any institution.

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Full Legal Name

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Signature

November 2015

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DATE

Certificate of Approval

The undersigned certify that this thesis represents the student's own work and effort and has been submitted with our approval.

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Dedication

I dedicate this work to my beloved husband Jones, for his full time support, encouragement and enduring love throughout the period of study. It gave me peace of mind, which has been the catalyst for my performance.

Acknowledgement

I would like to convey my sincere gratitude to my supervisor Dr. Mercy Pindani who has been there for me all the time guiding and supporting me through until I came up with this thesis despite her busy schedule. My gratitude also goes to Dr. Maluwa my research and statistics lecturer who is also the KCN Research Director, for teaching me all the statistical knowledge used in this research. To the DHO, Dedza District Hospital, I am thankful for accepting my request to conduct the study at the district hospital. The staff of ART clinic: Kamanga, Khumbanyiwa, Sumani, Ntambalika, Sibanyani, Kachinjika and Sankhani, I thank you for your time and support during the data collection period.

I would also like to thank my classmates with whom I shared notes, KCN library staff, my beloved sister Yana for her secretarial work and my brother Mike for printing the research proposal.

To God almighty, I am always grateful for the grace of life, good health and cognitive ability, this helped me to understand what I learned in class and apply it in this thesis.

Abstract

Background: There is evidence indicating that HIV infection reduces fertility desires, but does not eliminate it. ART initiation can restore fertility in women, influencing increased fertility intentions. Meeting contraceptive needs of HIV positive women can help avoid unintended pregnancies, which would reduce maternal deaths. Literature has shown that despite being beneficial to mother and child health outcomes, utilization of family planning among clients on ART is low. ***Objective:*** This study explored current FP use, identified frequent used FP methods and underlying factors among women on ART in Dedza. ***Methodology:*** This was a descriptive quantitative study. Data collection was through face-to-face interviews using a structured questionnaire. The sample consisted of 382 reproductive age women on ART, attending Dedza district hospital ART clinic. Computation of descriptive statistics determined frequencies and proportions. Chi-square test at 5% level of significance determined associations. ***Findings:*** About 55% (210) of the respondents were using family planning methods, and most of them used condoms, followed by an injectable hormone. Only 74 (48%) used the condom consistently and 103 (49%) used dual methods. Parity of the client was the significant predictor of family planning utilisation for women on ART, at Dedza district ART clinic. ***Conclusion:*** Generally, current use of contraceptives other than condoms was very low. These findings highlight the need for integration of family planning services and ART clinics in order to strengthen family planning services among women living with HIV on ART.

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Acronyms and Abbreviations

AIDS:	Acquired Immune Deficiency Syndrome
ART:	Anti Retroviral Therapy
ARV:	Anti Retroviral
CBDA:	Community Based Distributing Agent
CBO:	Community Based Organisation
CHAM:	Christian Health Association of Malawi
CI:	Confidence Interval
COMREC:	College of Medicine Research and Ethics Committee
CPR:	Contraceptive Prevalence Rate
CTC:	Care and Treatment Clinics
DDH:	Dedza District Hospital
DHMT:	District Health Management Team
FHI:	Family Health International
FP:	Family Planning
FPM:	Family Planning Methods
HAART:	Highly Active Anti-retroviral Therapy
HIV:	Human Immunodeficiency Virus
HMIS:	Health Management Information Systems
HPM:	Health promotion Model
HSA:	Health Surveillance Assistant
HTC:	HIV Testing and Counseling
IUD:	Intra-Uterine Device
MDHS:	Malawi Demographic Health Survey

MNCH:	Maternal Neonatal and Child Health
MOH:	Ministry of Health
NSO:	National Statistics Office
MTCT:	Mother-to-Child transmission
PEPFAR:	President's Emergency Plan for AIDS Relief (PEPFAR)
PLWHA:	People Living With HIV and AIDS
PMTCT:	Prevention of Mother to Child Transmission
SA:	South Africa
SRH:	Sexual and Reproductive Health
STI:	Sexually Transmitted Infections
TASO:	Toro AIDS Support Organisation
UNAIDS:	Joint United Nations Program on HIV/AIDS,
UNFPA:	United Nations Fund for Population Activities
UNICEF:	United Nations Children's Fund
USAID:	United States Agency for International Development
VCT:	Voluntary Counseling and Testing
WHO:	World Health Organisation

Operational Definitions

Family planning utilization: Use of any form of either modern or traditional family planning (FP) methods by a woman to limit or space the number of children she wants.

Contraception: The use of family planning methods to prevent conception and pregnancy

Contraceptive: An agent or device used to prevent conception

Current use of FP method: Utilisation of family planning methods by reproductive age women on ART at the time of the interview irrespective of consistency

Modern FP methods: FP methods such as pills, injectable (Depo-Provera), condoms, implants, Intra uterine contraceptive devices, vasectomy, bilateral tubal legation

Traditional family planning methods: family planning methods that are found locally or obtained from traditional healers or traditional birth attendants like herbs

Hysterectomy: An operation to remove a uterus

Unmet family planning need: no desire for children in future but not using family planning methods

Dual methods: use of a barrier method like condoms concomitantly with another family planning method like hormonal or IUD

Limiting childbirth: using permanent family planning methods in order not to have another child

Spacing childbirth: using semi-permanent family planning methods so that one can have children in the future if they stop using it

Planned fertility: wanted pregnancies

Mistimed fertility: presence of pregnancy when it was not wanted at that time but later

Unplanned fertility: unwanted pregnancy

CHAPTER 1

Introduction

Background

HIV is a chronic infection with no known cure, and people living with HIV need medical follow up for the rest of their lives (WHO, 2007). Globally, there is an estimated 35 million people living with HIV and AIDS, of which 16 million are women and 3.2 million are children below fifteen years old (UNAIDS, 2014).

Sub-Saharan Africa is the most affected region with the pandemic. Seventy one percent (71%) of all people living with HIV in the world live in this region (UNAIDS, 2014). In this region, 57% of all people living with HIV and AIDS are women, with a prevalence rate for young women aged 15-24 twice that of young men (UNAIDS, 2012).

Malawi is among the group of countries worst affected by the HIV epidemic in the world, and it is the leading cause of death for women in their reproductive years (UNAIDS, 2010). National prevalence was at 10% among adults (15-49 years) in 2011 (UNAIDS, 2012). In Malawi, about 60% of adults living with HIV are female, representing a prevalence rate of 12.9% against 8.1% for men (UNAIDS, 2012). The HIV and AIDS epidemic has also affected children in Malawi. In 2011 an estimated 170,000 children were living with HIV, with new annual infections reaching 16,000 (UNAIDS, 2012).

There are new global efforts mounted to address the epidemic. WHO promotes a comprehensive approach to the management of people living with HIV that addresses the individual's full range of health-related needs. The core component of this approach is

the provision of antiretroviral treatment (ART). The ART increases the length and quality of life for infected individuals while reducing the onward transmission of the virus (WHO, 2014). Evidence over the past decade shows that what was once an almost universally fatal disease has become a manageable chronic condition, and that the medicines available today can ensure people living with HIV a life expectancy comparable to that of uninfected people (Brinkhof et al., 2009).

The number of people with HIV receiving treatment in resource-poor countries has increased in the past decade. In 2012, close to a million people living with HIV were receiving antiretroviral therapy (ART) and 62% of pregnant women received effective drug regimens to prevent new HIV infections among children (AIDS.gov, 2014).

In Malawi, the ART program has grown significantly. Malawi has succeeded in improving the country's HIV treatment response by implementing the new WHO treatment guidelines, which placed people living with HIV on effective drugs with fewer side effects.As of 2012, 611 ART treatment clinics were providing ART and 369,436 persons with AIDS had ever started ART (UNAIDS, 2012). ART coverage increased from 54% in 2010 to 67% in 2011 (National AIDS Commission Malawi, 2012). Nearly a third of children in need of ART in Malawi are receiving it. This has increased survival of patients on ART, which demonstrates the effectiveness of the program especially in terms of reducing morbidity and mortality (National AIDS Commission Malawi, 2012).

Family planning contributes to reductions in unwanted pregnancies, maternal and child deaths, malnutrition, poverty, and spread of HIV. Evidence shows that there are unmet family planning needs among women in sub-Saharan Africa; including women living with HIV (Population Reference Bureau, 2015). Governments and funding

agencies agreed to integrate HIV/STI and family planning services to provide an opportunity to reach clients on ART with comprehensive reproductive health services, including family planning counseling and services, as part of their routine clinical care (Cates et al., 2010). There is less evidence, however, on how women living with HIV on ART plan for pregnancy, and whether they take measures to advance safer conception (Schwartz et al., 2012).

The World Health Organization (2010) lists preventing unintended pregnancies among people living with HIV as a second pillar of preventing mother-to-child transmission (PMTCT) (WHO, 2010b). Abdool-Karim et al. (2010) reaffirmed that preventing unintended pregnancies in HIV-infected women is cost saving, and contributes to the reduction of maternal and infant mortality, which may be higher among HIV-infected women (Abdool-Karim et al., 2010). Similarly Petruney, Harlan, Lanham & Robinson (2010) stated that PMTCT of HIV is less costly by preventing unwanted pregnancies with contraception than with ART in pregnant women (Petruney et al., 2010). In sub-Saharan Africa, modern family planning methods include hormonal contraception, condoms, intra-uterine devices and sterilization (Population Reference Bureau, 2015).

The use of modern contraceptives is an important factor in controlling fertility through prevention of unintended and unwanted pregnancies. However, contraceptive use is still very low in Sub-Saharan Africa where the level of fertility and unmet need for family planning continue to be high (Brou et al., 2009). WHO, UNICEF and UNAIDS in the 2011 progress report on Global HIV and AIDS response, reported that unmet need for contraception and unintended pregnancy, are prevalent among the estimated 13 million

women living with HIV in Sub-Saharan Africa (WHO, 2011). Unintended pregnancies account for 14 to 58% of all births in countries where the burden of HIV is the greatest (WHO, 2011).

There is a growing body of evidence indicating that HIV-infection reduces, but does not eliminate fertility desires; and ART initiation may be associated with an increase in fertility intentions (Taulo et al., 2009). Studies in Sub-Saharan Africa have reported a range of 7 to 45% of HIV-infected women desire to have more children at some point in the future (Kaida et al., 2009).

The literature has shown that despite being beneficial to both mother and child health outcomes, there is still very low utilization of family planning among women on ART. From the literature, there are a number of factors contributing to this like, influence of the spouse, culture, fear of side effects, level of education, models of delivery of FP services at the health service institutions, and the perspective of health care providers towards FP for clients on ART. This study would like to find out if women on ART at Dedza district hospital are utilising FP methods, which methods they frequently utilize and factors influencing their utilisation or non-utilisation.

Problem Statement

At Dedza district hospital, there is a family planning clinic with three family planning providers, and has all the modern family planning methods available like oral, injectable contraceptives, intrauterine devices, implants and condoms, which are provided free of charge. In addition, a private clinic (Banja la Mtsogolo) provides the same methods at a low cost. However,reports by MDHS (2010) show that met need for family planning is at 45.5%, unmet need is at 27.5% and that the total demand for FP is 73% in

Dedza district (National Statistical Office (NSO) & ICF Macro, 2011). Specifically to women on ART, studies have shown that there is very low utilization of family planning among women on ART. Haddad (2011), in her study on 'Family planning for women with HIV on ART in Lilongwe, Malawi' found that only 5% of the women enrolled in the study (N = 200) were currently using family planning methods other than condoms. However, most women (95%) did not desire future fertility, and prior unintended pregnancy rates were high (69.9%) (Haddad, 2011). This study therefore, explored the utilization of family planning methods among women of reproductive age on ART in Dedza district.

Study Objectives

The study has a main objective and three specific objectives. These objectives were guided by the Health Promotion Model by Nola Pender. The cognitive- perceptual factors are the primary motivational mechanisms for acquisition and maintenance of health promoting behaviors. Each factor exerts a direct influence on the likelihood of engaging in health promoting actions. Therefore, the way the woman places value on importance of health will result in information seeking behavior. Both pregnancy and HIV reduces a woman's immunity so she would want to delay pregnancy, even avoiding it totally by seeking family planning methods to promote her health. The main aim of this study is guided by this assumption so we would want to assess utilisation of FP methods among women on ART.

Perceived control of health will determine the current utilisation of family planning by the woman because it influences facilitation of continued practice of health promotion behavior in this case; family planning utilisation.

Perceived health benefits of the family planning methods the women choose, determines the frequently utilised methods.

A number of modifying factors influence the women to utilise family planning methods, like demographic , biological, interpersonal influence, situational even bahavioural factors, so this study wanted to indentify which factors influenced family planning utilisation on the women on ART in Dedza district. These acted as cues to action of the likelihood of engaging in a health promotion behaviour leading to participation of this health behaviour which is utilisation of family planning methods.

Aim of study

To assess utilization of family planning methods among women of reproductive age on ART in Dedza district, Malawi.

Specific objectives

1. To determine use of FP methods among women on ART in Dedza district
2. To identify FP methods frequently utilized by women on ART in Dedza district
3. To identify factors that influence use of FP methods among women on ART in Dedza district

Conceptual Framework

The Health Promotion Model (HPM) by Nola Pender

Introduction

The guiding theory of this research was the Health Promotion Model (HPM) by Nola Pender (1987). Nola Pender derived this model from social cognitive theory by Albert Bandura, which emphasizes the importance of cognitive mediating processes in the regulation of behavior (Pender, & Pender, 1997). Both the Social Cognitive Theory and the Health Promotion Model assume that people have power to shape their own destiny and to control outcomes regarding their health (Srof & Velsor-Friedrich, 2006). The theory helps to predict determinants of health care actions by individuals. Understanding the determinants of health promotion behavior is critical for the development of effective interventions that health professionals can use to assist clients in altering behaviors that increase risk for specific conditions. In this study, understanding determinants of family planning methods utilisation among women on ART will help the health professionals to improve family planning services and make them accessible to all women of reproductive age on ART.

The HPM has two phases: a decision-making phase and an action phase. The decision-making phase has two sets of factors that help in determining the likelihood of participating in health-promoting behaviors – the modifying factors and the cognitive/perceptual factors (Ronis, Hong, & Lusk, 2006). The cognitive perceptual factors compose motivational mechanisms for acquiring and maintaining health-promoting behaviors, while the modifying factors collectively affect the cognitive

perceptual factors by indirectly influencing patterns of health behavior (Pender, & Pender, 1997).

In the action phase, barriers and cues to action resulting from the interaction of the modifying factors and the cognitive/perceptual factors influence the likelihood of engaging in health-promoting behaviors, thus triggering activity (Polit & Beck, 2008). The figure below describes the framework of the model (Fig 1) followed by a discussion of the concepts and how they relate to the study.

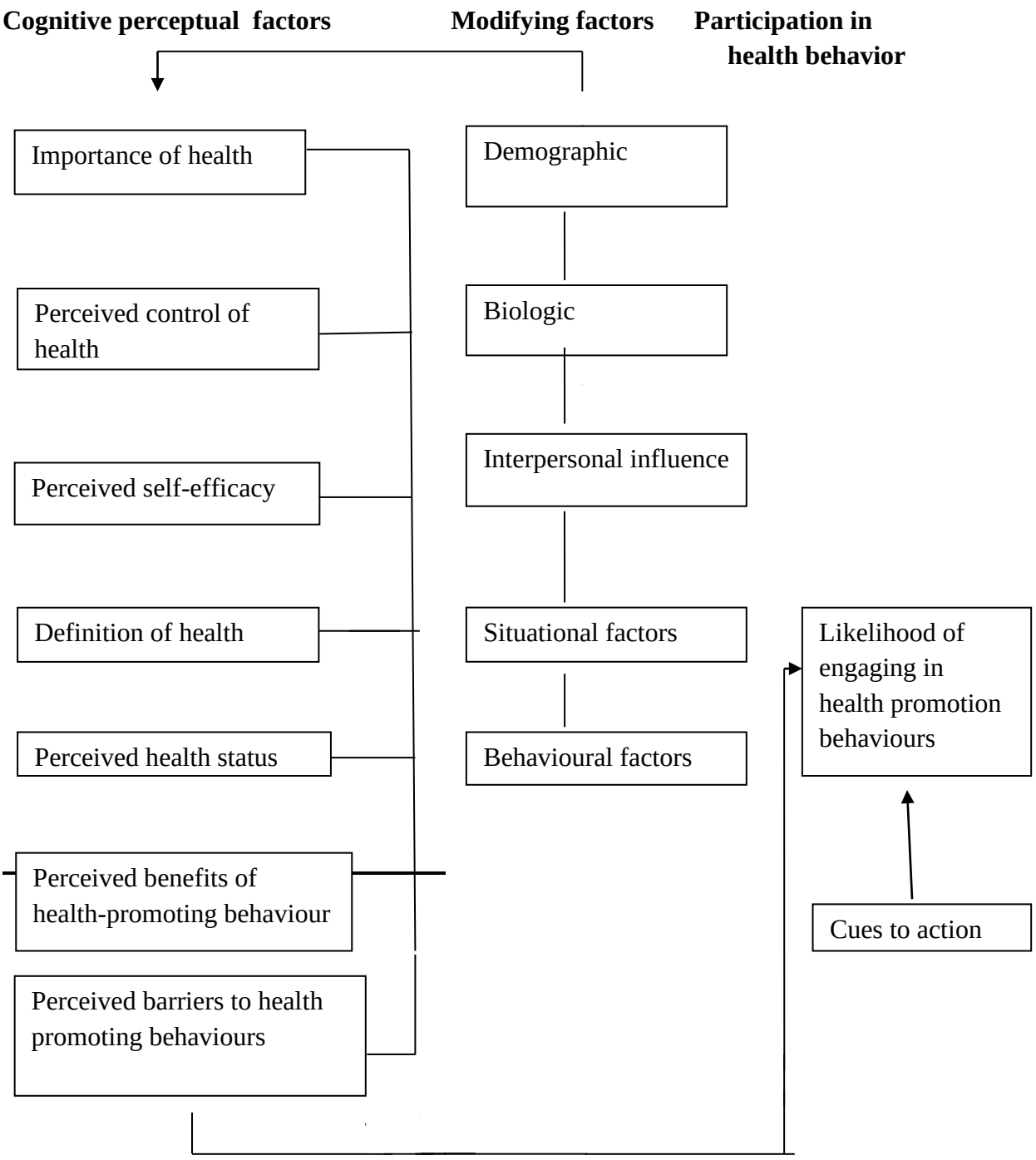

Figure 1: Conceptual Framework

Health promotion model (Pender& Pender, 1997)

Concepts

Cognitive- perceptual factors

Cognitive- perceptual factors are the primary motivational mechanisms for acquisition and maintenance of health promoting behaviors. Each factor exerts a direct influence on the likelihood of engaging in health promoting actions. These include importance of health, perceived control of health, perceived self-efficacy, definition of health, perceived health status, perceived benefits of health-promoting behaviour and perceived barriers to health promoting behaviours

Importance of health: placing a high value on health results in information seeking behavior. Both pregnancy and HIV reduces a woman's immunity. If a woman on ART places much value on her health, she would want to delay pregnancy, even avoiding it totally by seeking family planning methods to promote her health.

Perceived control of health: this influences the effectiveness of differing strategies for facilitating continued practice of health promotion behavior.World Health Organisation (2007) reported that the lifetime risk of dying due to pregnancy complications in Sub-Saharan Africa is 1 in 22 compared to 1 in 73,000 in the developed world, suggesting a need to prevent unintended and unwanted pregnancies especially among HIV infected women who tend to have worse birth outcomes compared to the uninfected women (WHO, 2007). If an HIV positive woman has a perceived control of health, she would continue to utilise family planning methods, a health promotion behaviour to prevent unintended and unwanted pregnancies that would tend to have worse birth outcomes.

Perceived self-efficacy: is an individual's conviction that they can successfully execute the required behavior necessary to produce the required outcome. If HIV positive women on ART can be individually convinced that successfully executing the required behavior, which is utilising modern contraceptives, can produce the required outcome, which is controlling fertility through prevention of unintended and unwanted pregnancies, they would willingly utilise the contraceptive methods.

Definition of health: to which the individual subscribe may influence the extent to which they engage in health promoting behaviors. Studies have shown that consistent provision and utilisation of contraceptives can improve the quality of life for both HIV infected and uninfected women and their families. If an HIV positive woman subscribe that prevention of unintended pregnancies can improve the quality of her life and her family's, she would consistently utilise family planning methods, a health promoting behaviour. In addition, if a woman defines health as self-actualization, she will attain self-initiated activities directed toward attaining higher levels of health and well-being like utilizing family planning methods to remain healthy and avoid health risks that come with pregnancy.

Perceived health status: is how an individual feels about one's health status. Improved access to ART enables people living with HIV to live longer and healthier lives, enjoying sexual relationships, bear and raise children; leading to a perceived healthy status to the individual. However, pregnancies in HIV positive women can lead to vertical transmission of HIV from mother to child. In addition, it can lead to high-risk pregnancies that result in high levels of maternal and child illness and death. Therefore, the level of perceived health by women on ART plays a role in the frequency and intercity of health promoting behaviors like utilisation of family planning methods. If the

woman on ART anticipates that she will remain healthy regardless of her HIV sero-status by preventing pregnancy, she will fully utilize family planning methods to prevent the pregnancy.

Perceived benefits of health promoting behavior: are anticipated benefits of engaging in the health-promoting behavior. Family planning helps to reduce the number of high-risk pregnancies that result in high levels of maternal and child illness and death. Utilisation of contraception by women with HIV who wish to postpone or avoid pregnancy can prevent vertical transmission of HIV from mother to child therefore, reducing peadiatric HIV infection. In addition, preventing unintended pregnancy among HIV positive women is vital to meeting HIV positive women's sexual and reproductive health needs. These anticipated benefits of utilising family planning methods among HIV positive women can affect the level of participation in such a behavior.

Perceived barriers to health promoting behaviors: these are factors that prevent someone from engaging in health promotion behaviors, they may be real or imagined. A number of barriers can prevent women from utilising family planning methods. Some of these barriers include fear of side effects like severe or frequent vaginal bleeding, weight gain, weight loss, which carries the risk of HIV stigma, abdominal pains, decreased sexual desire, genital sores, infertility and impotence. Furthermore, there is resistance to modern methods among some sectors such as religious communities, inaccessibility of FP methods and unwillingness of male partners. If a woman has these perceived barriers in mind, she might not utilise family planning methods.

Modifying factors

Modifying factors affect patterns of health promoting behavior through their impact on cognitive perceptional mechanism. These include demographic factors like age, marital status, level of education, religion and residence; biological factors like sex of an individual, situational factors like accessibility of the family planning services and interpersonal influences like encouragement from spouse and peers. These factors might be great predictors of family planning utilisation among women on ART.

Cues to action

Cues to action influence the likelihood of taking health-promoting actions, and can originate from internal or from the environment. Personal awareness of the potential for increased feelings to begin health promotion efforts, may serve as internal cues and the mass media may be a source of environmental cues for action. The intensity of the cues needed to trigger action will depend on the level of readiness of the individual or group to engage in the health promoting activity. Internal and environmental cues to action might also influence utilisation of family planning among women on ART.

This model is applicable to this study because the concepts in the model lead to the likelihood of engaging in health promotion behaviour, which is utilisation of family planning methods by the women on ART. All these concepts have been included in the study objectives and questionnaire to help answer the questions on utilization of family planning methods among women on ART in Dedza.

Significance of the Study

Malawi Ministry of Health guidelines for clinical management of HIV in children and adults do provide guidance on contraception for women living with HIV on ART. The guidelines recommend counseling of women on ART on family planning, and offer depo provera in addition to condoms to those willing (MOH, 2011). Understanding the utilization of family planning methods among women on ART is critical to the expansion of comprehensive HIV prevention programs targeted at achieving a reduction in unwanted pregnancies and a decrease in the incidence of HIV-infected children. Women's attendance in ART clinic represents an opportune time to determine their fertility plans and intervene to prevent unintended pregnancies and reduce MTCT of HIV.

Findings from this study will generate information that will help in formulation of evidence-based decisions by policy makers and program implementers, and will help them in revision of ART guidelines to meet contraceptive needs of women on ART to strengthen utilisation of FP methods. To service providers, it will help them to determine women's fertility plans and intervene to prevent unintended pregnancies and reduce MTCT of HIV. The findings will also provide knowledge for further research.

Conclusion

Utilisation of family planning methods contributes to reduction of unwanted pregnancies, maternal and child deaths, malnutrition, poverty and HIV transmission. Literature has shown that despite being beneficial to both mother and child health outcomes, there is still very low utilisation of family planning methods among women on ART. This study therefore explored the utilisation of family planning methods among women of reproductive age on ART in Dedza district. The Health Promotion Model by

Nola Pender guided the study. This model emphasises the importance of cognitive mediating processes in the regulation of behaviour. Understanding determinants of utilisation of family planning methods among women on ART will help health professionals to improve family planning services and make them accessible to all women of reproductive age on ART.

CHAPTER 2

Literature Review

Introduction

Literature review provides a researcher with relevant information about known or unknown facts about the topic of study (Burns, & Groove, 2009). This chapter presents a review of studies done on FP and clients on ART. The researcher has reviewed peer-reviewed articles published in English from 2004 to 2014 from HINARI and Pub-Med electronic databases using the following search terms: utilisation of family planning AND women on ART, family planning AND women on ART, contraception AND women on ART, factors influencing FP AND women on ART. This was a narrative review of studies done in Malawi and other countries. This helped to have a comprehensive background for understanding already known facts about utilisation of family planning for women on ART hence avoiding unnecessary replication. The review included only articles that were specific and relevant to the study 'Utilisation of family planning methods among women on ART.' In addition, manual searching and sourcing of relevant secondary references extended the search.

The Health promotion Model (HPM) assisted in the literature search in order to understand and predict why and under what conditions women on ART take preventive health related actions in this case, utilising family planning methods. According to the HPM, the researcher reasoned that women would be more likely to utilise family planning methods depending on other factors like their demographic characteristics, interpersonal influences, situational factors and their behavioral factors. The researcher therefore arranged this literature review according to the following areas: current FP

utilisation, factors influencing utilisation of FP methods, which included demographic characteristics, HIV positive status, culture, health service delivery and barriers to utilisation of FP methods.

Current family planning utilisation

The use of modern contraceptives is an important factor in controlling fertility through prevention of unintended and unwanted pregnancies (Brou et al., 2009). However, contraceptive use is very low in Sub-Saharan Africa where the levels of fertility and unmet need for FP continue to be high and the lifetime risk of dying due to pregnancy or complications is 1 in 22 compared to 1 in 73,000 in the developed world (WHO, 2007). This suggests a need to prevent unintended and unwanted pregnancies especially among HIV infected women who tend to have worse birth outcomes compared to the uninfected women (Naniche et al., 2009).

Malawi has very few studies conducted on utilisation of family planning methods among women on ART. However, other studies have indicated that most women do not desire to have children in the future, but utilisation of family planning is low. In a study conducted by Anand et al. (2009), on 'Knowledge of HIV status, sexual risk behaviours and contraceptive need among people living with HIV in Kenya and Malawi,' only 26% and 19% of the women living with HIV were using contraceptives in Kenya and Malawi respectively. Yet about half (54%) of the women in Kenya and 40% in Malawi reported that their last child was either unplanned or unwanted. In the same study, nearly three quarters of the women did not want more children within the next two years or ever, but only one in three women in Kenya and one in five women in Malawi were using contraceptives (Anand et al., 2009). Similarly, in a study conducted by Mbeye (2007) in

Lilongwe on sexual behaviour and future childbearing intentions of HIV infected women receiving ART, out of 189 women enrolled, 66% intended to continue childbearing. Most women (77%) wanted to delay their pregnancy until 12 months after the survey however, only 36.5% of all the enrolled women used modern contraceptives. The majority (77%) used condoms, 6% and 13% used pills and injectables respectively (Mbeye, 2007).

In a facility based cross - sectional study by Daire (2011), in Blantyre, Malawi, most women on ART and some service providers had inadequate knowledge on appropriate contraception for women on ART. He reported that some health care workers discouraged women to use hormonal methods, and some women were not aware that they could use a barrier method simultaneously with a hormonal method. Contraceptive prevalence was at 55.2% and unmet need was at 22.6%. These results suggested that health care workers needed awareness on reproductive intentions of women living with HIV on ART to help them sensitise the women on their needs for utilization of family planning methods (Daire, 2011).

Similarly, studies conducted in some African countries showed low utilisation of family planning among women on ART. In 2013, Berhane, Berhe, Abera and Berhane conducted an institution based cross-sectional study on 'Utilisation of modern contraceptives among HIV positive reproductive age women in Tigray, Ethiopia.' The aim of the study was to assess utilisation of modern contraceptives and associated factors among HIV positive reproductive women attending ART clinics in zonal hospitals of Tigray region. They interviewed 364 women in all zonal hospitals using systematic sampling technique. The study revealed that the number of respondents who ever heard of modern contraceptives was high however; modern contraceptive utilization was still

low at about 46%, and 59.9% of these used dual methods. In addition, a significant proportion of the respondents (46%) reported a desire to have children (Berhane, Berhe, Abera & Berhane, 2013).

Likewise Homsy et al. (2009) conducted a prospective cohort study titled 'Reproductive intentions and outcomes among women on antiretroviral therapy in rural Uganda.' The aim of the study was to examine the reproductive intentions and outcomes over two years of follow-up among 733 HIV infected women on ART. The participants were part of the Home Based AIDS Care Study (HBACS) a randomized trial of three different ART monitoring strategies in Tororo and Busia districts in rural eastern Uganda. They found that although 93 to 97% of all women reported not wanting any more children at any time, only 14% of women used permanent or semi-permanent FP methods, 65% reported using condoms 18 months after starting ART and 63% at 2 years of follow-up. In addition, fewer than 4.3% used dual contraception by their second year on ART. Among 176 sexually active women not desiring children at 2 years of follow-up, 33% did not use any method and 53% used condoms alone. Over the two-year follow-up period, 17% became pregnant (Homsy et al., 2009).

Furthermore, Muyindike et al. (2012) conducted a retrospective study of electronic medical records from the initial HIV clinic visits of 826 sexually active, non-pregnant 18-49 years old women in Southwestern Uganda. The aim of the study was to examine whether contraceptive use was associated with HIV status disclosure to one's spouse. They found that contraception use among HIV positive women enrolling into HIV care in Southwestern Uganda was very low (27.8%). The most common method

used was injectable hormones (51.7%) followed by condoms (29.6%) and oral contraceptives (8.7%) (Muyindike et al., 2012).

Also in South Africa, Schwartz et al. (2012) in their study found that just above half (54%) of the respondents reported consistent condom use, only 33% were using hormonal contraceptives and 15% were dual method users. Injectable contraception was the most commonly reported method (n=192) followed by pills (n = 46), implants (n=4) and IUD (n=1). Twenty eight percent (28%) of the respondents had an unmet need for reliable contraception at baseline. This was a prospective cohort study on 'High incidence of unplanned pregnancy after ART initiation.' The aim of the study was to determine the incidence of unplanned pregnancies in HIV positive women on ART in South Africa, and to assess contraceptive use and associations with unplanned pregnancy in this population. They enrolled 850 non-pregnant women ages 18-35 from four public sector ART clinics in Johannesburg, South Africa and followed them from August 2009 to March 2011 (Schwartz et al., 2012). Similarly, Somera and Ross (2012) in their observational descriptive study titled 'Contraceptive knowledge and practice among HIV positive women receiving ART at a district hospital in KwaZulu Natal found that all participants got contraceptive counseling prior to initiation of ART with 95% receiving counseling on the dangers of falling pregnant while receiving ART. They found that all the respondents knew about male condoms but only 66% used it and just 2% used female condoms. However, knowledge of the other semi permanent methods was very low, 34% for injectables, 55% IUD, 56% oral contraceptives; and 40% used injectables, only 2.3% used IUD, and just 0.5% used oral contraceptives. On the other hand, most of the respondents (85%) had tubal ligation. Just over 50% reported using dual contraception of

which the majority was condoms and an injectable form of contraception. The aim of this study was to determine the contraceptive knowledge and use of women attending this ART clinic in order to make recommendations about their reproductive health. They enrolled 400, 18-45 years old women, attending the clinic in 2010 and had been receiving ART for a minimum of one month (Somera & Ross, 2012).

Elsewhere in the world, in Cambodia, while ART services were increasingly available, the unmet need of FP among the general population was high. Nakaie et al. (2014) conducted a cross-sectional survey on 'Family planning practice and predictors of risk of inconsistent condom use among HIV positive women on ART therapy in Cambodia.' The study aimed at clarifying FP practices in Cambodia, and determining predictors of risk of inconsistent condom use among women on ART at five government run health centres. They administered a structured questionnaire to collect data through face-to-face interviews from 408 HIV positive women aged 18-49 years on ART who visited these health centres during the study period. They found that although 92.3% were not planning to get pregnant, and the majority (97.8%) was aware of at least one method of contraception, only 68.5% were using a contraceptive method. From those that used contraceptives, 14.2%, 6% and 3.6% used the pill, IUD and injection respectively, while 47% used condoms. Out of those that used a contraceptive, only 17.5% employed a dual contraceptive method, which included a condom and another modern contraceptive (Nakaie et al., 2014).

These facts raise concern on possible exposure of many HIV positive women on ART to the potential risk of unintended pregnancies. These studies showed that there is

need for additional efforts in promoting modern contraceptive utilisation in general and dual methods use in particular among HIV positive reproductive age women on ART.

In Bangkok, Landolt et al. (2013) found contrary findings to these in their secondary analysis of a prospective cohort study on 'Factors associated with the use of irreversible contraception and continuous use of reversible contraception in a cohort of HIV positive women.' They wanted to assess factors associated with the use of irreversible contraception and the continuous use of reversible contraception in HIV positive Thai women. They enrolled 272 HIV positive, 18-49 years old, non-pregnant women who had been on HAART for at least six months at the Thai Red Cross Anonymous clinic in Bangkok. The study showed that over 95% of all women reported always using either male condoms (87%) and/or another highly effective contraceptive method (56%). Just above half of the respondents (52%) reported use of dual contraception. Among the women using highly effective contraceptive methods, 75% had female sterilisation and 25% were using hormonal contraceptives (16% combined oral contraceptive pills, 3% injectable, 6% implant). No one reported using an IUD. They found 100% consistency in contraceptive use in the cohort (Landolt et al., 2013).

Sufa, Abera and Admasu (2014) found these similar results in an institutional based cross sectional study on 'Utilization of family planning methods and associated factors among women living with HIV attending ART clinics in Nekemte Public Health facilities, east Wollega zone Ethiopia.' They wanted to assess the utilisation of family planning methods and associated factors among HIV infected women in ART clinics of public health institutions. The study population included a sample of reproductive age women aged 15-49 years living with HIV who visited Nekemte hospital and health

centres during the data collection period. They found that there was a high level of knowledge about family planning with more than 98% women knowledgeable of at least one method used to prevent conception. More than half (66.4%) of the respondents were using different methods of family planning during the study period, and condom (41.6%) was the dominant method. Out of those that reported condom use, 87.7% used it regularly. Overall, 33.7% of the respondents reported using dual methods (condoms and other FP methods) (Sufa, Abera & Admasu, 2014).

This was similar to findings by Egessa (2010) in a study conducted in Uganda where the majority (87.3%) of respondents was using some form of either modern or traditional FP methods. Most of these (87%) were using condoms, 7% pills and 6% injectable method. This was a cross sectional study on utilisation of family planning services among sexually active people living with HIV and AIDS in TASO, Tororo, Uganda to assess the current utilisation and factors that influence utilisation of FP among sexually active PLWHA in TASO, Tororo to design better strategies to improve FP service delivery (Egessa, 2010).

Factors influencing utilisation of FP methods among women on ART

Several characteristics influence fertility intentions besides HIV status (Nattabi, Li, Thompson, Orach, & Earnest, 2009). In a multivariable analysis of the study by Muyindike et al (2012) on 'Contraceptive use and associated factors among women enrolling into HIV care in Southwestern Uganda,' the odds of contraceptive use were significantly higher among women reporting secondary education, higher income, three or more children and younger age (Muyindike et al., 2012).

In the institution based cross-sectional study by Berhane et al (2013), respondents who had a secondary education and higher (AOR: 2.85; 95% CI: 1.17 - 6.95) and currently on HAART (AOR: 3.23; 95% CI: 1.49 - 7.01) were more likely to utilise modern contraceptives. However, those who were 25 and more years old, housewives, single, divorced or widowed were less likely to utilise modern contraceptives (Berhane et al., 2013).

Myer, Morroni and Rebe (2007) conducted a cross sectional study on prevalence and determinants of fertility intentions of HIV infected women and men receiving ART in South Africa. The aim of the study was to investigate these issues among patients attending a public sector ART service who had been receiving ART for at least one month. They found that out of the 311 respondents, 29% stated that they wanted more children in the future. Fertility desire was associated with younger age (OR 0.92; CI 0.87 – 0.97), decreased number of children (OR 0.32; CI: 0.15 – 0.69) and being in a relationship of less than 5 years (OR 3.93; CI: 1.91 – 8.08). In addition, fertility desire was associated with increasing duration on ART among female participants but not among males (Myer et al., 2007).

These findings suggested that fertility desires might change through time and thus require ongoing attention as part of long-term care. In addition, they suggested that there should be an increased emphasis on contraceptive uptake for HIV positive women in HIV care clinics, especially those with lower education, income, lower parity and older women who are still in the reproductive age and are sexually active.

HIV positive status

Some studies show that an HIV positive diagnosis is associated with no desire for children in the future. Hoffman et al. (2008) confirmed this in a prospective cohort study on the yearlong effect of HIV positive test results on pregnancy intentions, contraceptive use and pregnancy incidence among Malawian women. The study aimed at estimating the effect of receiving HIV positive test results on intentions to have future children and contraceptive use; and to assess the intentions and pregnancy incidence among HIV positive women in Malawi. They enrolled women who were HIV positive and not pregnant and followed them for one year while receiving HIV care and access to FP services. They found that before receiving HIV test results, 33% of the women reported a desire to have children in future, but after receiving the HIV positive test results, the percentage declined to 15%. Contraceptive use increased from 38% before HIV testing to 52% after testing. The pregnancy incidence among women not reporting a desire to have future children after VCT was less than half of the incidence among women reporting this desire. This showed that with knowledge of their HIV positive status, women were less likely to desire future pregnancies. Pregnancy incidence was lower among women not desiring future children. They recommended integration of VCT, FP and HIV care to prevent mother to child HIV transmission (Hoffman et al., 2008).

Since most of the studies of fertility desires were cross-sectional and did not provide an understanding of whether those intentions change over time, and which factors influence those changes; Taulo et al. (2009) conducted a prospective longitudinal study of fertility intentions of HIV infected and uninfected women in Malawi. The aim of the study was to determine changes in fertility intentions of HIV-1 infected and

uninfected reproductive women in Blantyre, Malawi. The study enrolled 842 HIV uninfected and 844 HIV infected women who were asked about their fertility intentions at baseline and at 3 months visits of one year. They found that the hazard of changing from wanting no more children at baseline to wanting more children at follow-up was 61% lower among HIV infected women compared to HIV uninfected women ($p < 0.01$) after adjusting for other factors while HIV infected women were approximately 3 times more likely to change to wanting no more children. HIV infection was a significant predictor of fertility intentions over time among reproductive age women. In addition, they found that HIV infection was not associated with becoming pregnant; thus, there were no significant differences between HIV infected and uninfected women. However, education and number of living children were significantly associated with becoming pregnant. The Adjusted Odds Ratio (AOR) of becoming pregnant was 2.1 ($p < 0.01$) in illiterate women compared to literate women. The chance of becoming pregnant decreased 18% with every live birth a woman had ($p < 0.01$). Therefore, the adjusted hazard of changing from desiring children at baseline to not wanting children during follow-up was 2.89 times higher among women living with HIV than HIV negative women (Taulo et al., 2009).

In Kenya, Imbuki, Todd, Stibich, Shaffer and Sinei (2010) conducted a qualitative study on 'Factors influencing contraceptive choice and discontinuation among HIV positive women in Kericho, Kenya.' The aim of this study was to explore the perceptions toward and utilisation of contraception among HIV positive, reproductive age women in Kericho, Kenya an area with high HIV and low contraceptive prevalence rates. They purposively selected HIV positive women between ages of 18 and 45 attending Kericho

District Hospital adult and postpartum HIV clinics with three defined strata ages; 18-22, 23-30 and 31-45. The results showed that HIV status affected support for contraceptive method use with many participants expressing either their interest to use or their decision to change the method due to HIV diagnosis. Furthermore, most women reported that their male partners disapproved their contraceptive use. This influenced their contraceptive use and choice more than side effects. However, some women did not think HIV status made a difference in method selection. Perceived and experienced side effects were important determinants for contraceptive method choice. Other commonly stated reasons for discontinuation were desired fertility, dissolution of partnerships due to deaths or separation and inconvenience of methods (Imbuki et al., 2010).

These findings reflect the multi-factoral aspects of contraceptive decision making among HIV positive women. During counseling, providers need to be aware of their clients' concerns in order to select the method best matched to the clients' needs.

Culture

Cultural norms and expectations pertaining to HIV and reproductive health are varied and include among others; fatalism attributed to HIV disease, fear of infecting the unborn child, gender roles designated by society such as the role of women in child bearing and the demand for bigger families (Srikanthan & Reid, 2008).

HIV disease and culture may influence decision making among HIV positive women. In Malawian culture, there is a strong social value of parenthood and the expectation is that women should have children; a number of cultural beliefs influence FP practices for example people think that having children is one's life aspirations (Cooper et al., 2009). Some individuals living with HIV believe that it gives a reason to live

(Cooper et al., 2007; Kanniappan, Jeyapaul, & Kalyanwala, 2008; Nattabi et al., 2009). Furthermore, HIV positive individuals sometimes continue bearing children to avoid raising suspicions and facing stigmatization within their community (Nattabi et al., 2009). Others want to replace children who have died because of HIV (Cooper et al., 2009; Moyo & Mbizvo, 2004; Nattabi et al., 2009) or provide their children with a support network amongst themselves (Kanniappan et al., 2008).

A qualitative study to identify and describe perceptions of Swazi women living with HIV on childbearing showed that, cultural expectations override individual factors such as knowledge about ones HIV sero-positivity. For example, pressure from in-laws forces women living with HIV to have children despite their status, the desire to portray "femininity" and fulfill womanhood also contribute (Sukati & Shabangu, 2006).

Todd et al. (2011) conducted a multisite study on 'Influence of culture on contraceptive utilisation among HIV positive women in Brazil, Kenya and South Africa.' The aim of this study was to describe the relative importance of HIV infection and culture regarding contraceptive choice, utilisation and discontinuation among HIV positive women in Rio de Jeneiro, Brazil; Kericho, Kenya and Soweto, South Africa. They used qualitative method of data collection using Freelist interviews of 108 (36/site) HIV positive women aged 15-40 in South Africa, 18-40 in Brazil and 18-45 in Kenya. They found that there were site-specific factors influencing contraceptive choice. In Brazil, male partner wishes and fertility desire were the main factors; in South Africa, it was side effects and in Kenya, the factors were impact of FP on health and HIV progression. In addition, age, parity and taking ART influenced some themes. Condoms were the most popular contraceptive method used by participants at each site at the time

of interview. They concluded that culture and other factors substantially influence contraceptive use among HIV positive women (Todd et al., 2011).

These results may guide culturally accepted counseling efforts and contraceptive method selection better tailored to the needs of HIV positive women leading to improved current utilisation of FP methods. Therefore, it is important to look beyond individual factors when examining FP use or non-use because characteristics of a community in which a person lives, mediate individual factors that determine one's use of services such as FP.

Health service delivery

Improved access to FP among HIV infected individuals decrease maternal morbidity and mortality as well as poor neonatal outcomes (Duerr, Hurst, Kourtis, Rutenberg, & Jamieson, 2005). In many countries in Sub-Saharan Africa, provision of contraceptive services are in FP clinics, separate from clinics providing ART and related care for HIV infected individuals (Mutiso, Kinuthia, & Qureshi, 2008). Recognizing the structural barriers associated with this model of care, six international statements recommended integrating FP and HIV services in order to increase access among individuals living with HIV to contraceptive counseling and services (Wilcher, Petruney, Reynolds, & Cates, 2008).

In Malawi, the current guidelines on the management of HIV in adults and children (Ministry of Health, 2011) recommend integration of contraception within ART clinics. However, much as the integration was a welcome idea to women and service providers, it brought its own challenges as well. Health service providers felt it had increased their workload due to multiple tasks and compounded existing challenges of space for service provision (USAID, 2011). USAID, (2011) recommended the importance of health care

managers to be proactive when planning to address potential challenges that may arise as the Ministry of Health in Malawi rolls out integrated services for family planning and ART, for the program to be successful (USAID, 2011).

Health care providers are at the forefront of defining, offering and/ or modifying integrated HIV and FP services. However, Newmann, et al. (2013) found that there was little research exploring the perspectives of the health care providers with regard to integrated reproductive health and HIV services. Newmann, et al. (2013) conducted a cluster-randomized trial to explore the viewpoints of health care providers working in public sector HIV care and treatment clinics in rural western Kenya (Nyansa Province) in respect to providing FP services within HIV care settings.They found that providers supported HIV and FP integration however, there were potential barriers identified including misunderstandings about contraceptive safety, gendered power differentials related to fertility decisions, staff shortages, lack of FP trainings and contraceptive shortages. They concluded that it was important to consider issues of patient flow, provider burden, commodity supply, gender and cultural issues affecting FP use and provider training in FP and HIV when designing integrated FP and HIV services in high HIV prevalence areas (Newmann et al., 2013a).

Advocates of integration hypothesized that it will increase contraceptive uptake, prevent pregnancy and empower women and men to determine their family size (Lindegren et al., 2012). However, Grossman et al. (2013) realized that there was little rigorous research evidence to support this hypothesis and that there had been no randomized trials on integrating FP into HIV services. They conducted a cluster-randomized trial on 'Integration of FP services into HIV care and treatment in Kenya.' They aimed at determining whether integration of FP services into HIV care and

treatment improved the uptake of more effective contraceptive methods (sterilisation, IUD, implants, injectables and oral contraceptives). In addition, they wanted to determine whether integration of FP services affected pregnancy incidence. They compared contraceptive prevalence and pregnancy incidence among women at HIV care and treatment clinics that offered integrated FP services to HIV clinics that referred clients seeking FP services to a separate maternal child health and FP (MCH-FP) clinic at the same facility. The results showed that at the integrated sites, the prevalence of use of more effective FP methods increased from 16.7% to 36.6% (19.9%); whereas at the control sites, it increased from 21.1% to 29.8% (8.7%). Most of the differential increase in contraceptive use at integrated sites was due to implants and injectables. The prevalence of dual method use increased from 10.1% at baseline to 20.9% (10.8%) at end line at integrated sites while at control sites, dual use increased from 11.5% to 19.1% (7.6%) (Grossman et al., 2013).

Furthermore, Mbatia et al. (2012) reported that HIV care and treatment settings provide an opportunity to reach PLWHA with comprehensive reproductive health services, including family planning (FP) services, as part of their routine clinical care. According to Family Health International (FHI) (2007), improvements in quality of HIV care coupled with the reduction in stigma in many communities contributed to a rise in fertility desires between PLWHA and consequently inconsistent use of contraceptive methods. FHI researchers in Tanzania reported that HIV care and treatment clinics (CTC) are the best places to provide family planning services. In a survey among their clients, they found that about one third of the clients on ART wanted to have children at some point in the future but very few used contraception. These clients said that they would

prefer to have FP and sexuality counseling offered through their CTC rather than referring them elsewhere (Gray, Homsy, Mohohlo, & Mpangile, 2011).

Baumgartner et al. (2014) conducted a study to develop and test a facilitated referral model for integrating FP into HIV care and treatment in Tanzania with the primary outcome being a reduction in unmet need for contraception among female clients. They interviewed 323 ART clients pre-intervention and 299 post- intervention. They found that facilitated referral model was a feasible strategy for integrating FP into HIV care and treatment services because it resulted in increased contraceptive use among clients living with HIV. This study could help inform both programs and future research efforts in services integration.

Makumbi et al. (2011) in their study on 'use of HIV related services and modern contraception among women of reproductive age in Rakai, Uganda,' aimed at assessing the association between up-take of HIV related services and use of modern contraception among reproductive age women. They derived their data from the Rakai Community Cohort study data of 5,469 women age 15 – 49 years conducted by the Rakai Health Sciences Program. They found that use of condoms for FP increased with level of care while use of modern contraceptives decreased with increasing level of HIV care. Furthermore, secondary or higher level of education was associated with higher use of modern contraception, while discussing FP with partner was significantly associated with higher use of condoms for FP. Overall, just about one third of the respondents had unmet need for FP. However, the proportion decreased with increasing level of HIV care (Makumbi et al., 2011). This suggested that the continued provision of reproductive health messages and integration of such services into HIV related services could increase

the women's choice and potential uptake of contraceptives; thus reducing unmet need for FP.

Mbizvo (2009) presented a paper on integrating HIV and family planning services in order to reduce high prevalence of HIV and AIDS in generalized epidemics, at the international conference on family planning in Munyonyo, Uganda in November 2009. He suggested that service providers could target the same population at once and integrate the facilities for the effective provision of both services by combining FP, HIV and AIDS efforts. He cited systematic review of best practices for strengthening the linkages between sexual and reproductive health (SRH) and HIV. He showed that integration of services resulted in increased FP utilisation. Key recommendations were to provide quality FP, HIV and AIDS services in an integrated manner because it makes effective utilization of scarce resources. However, integration efforts require support from the national level, to provide proper operational guidelines, monitoring and evaluation frameworks

These results suggest that a substantial proportion of HIV infected women and men receiving ART in this setting would like to have children in the future. The HIV care clinics may be key sites for contraception education and service delivery integration. This highlights the importance of incorporating fertility related counseling as well as contraception and childbirth as appropriate into HIV treatment services.

Barriers to utilization of family planning methods

Attributes to the continued high rates of unwanted and unintended pregnancies, especially among HIV infected women may include a number of barriers like fear of side

effects, availability, accessibility, affordability and lack of male involvement (Salter et al., 2008).

Nationally in Malawi, a number of studies have identified key barriers that need overcoming in order to improve utilization of FP among HIV positive women. These barriers included fear of side effects like severe or frequent vaginal bleeding, weight gain, weight loss, which carries the risk of HIV stigma, abdominal pains, decreased sexual desire and unwanted pregnancy (Bisika, 2008). Bisika (2008) conducted a survey on 'Cultural factors that affect sexual and reproductive health in Malawi' and found that 28% of the women and families surveyed indicated their interest in practicing FP, but reported some constraints. The constraints included resistance to modern methods among some sectors such as religious communities, discontinuation of certain methods due to side effects and early and sustained childbearing. In addition, there was inaccessibility of FP methods, unsustainable community-based distribution of services, low utilization of male and female condoms and limited access to services for rural populations (Bisika, 2008).

Likewise, Chipeta, Chimwaza and Kalilani-Phiri, (2010) also found this in a study on contraceptive knowledge, beliefs and attitudes: misinformation misbelieves and misperceptions in rural Malawi. The researchers found that awareness of family planning methods was high. However misinformation leading to fear of side effects, prolonged menstruation, genital sores, impotence and infertility, was among the many reasons for contraceptive non-use.

Grabbe et al. (2009) in a study conducted in Rwanda and Zambia on Knowledge, use, and concerns about contraceptive methods among sero-discordant couples, found

that PLWHA who were particularly sensitive to their health status, might exaggerate the fear of side effects of contraception

A partner's fertility intentions can also influence childbearing desires (Cooper et al., 2009). A study done in Ethiopia found that if an HIV positive respondent desired children, the respondent was more likely to have a partner who also desired children (OR = 38.7) (Tamene & Fantahun, 2007). Many studies have found that men are more likely to want children than women after an HIV diagnosis (Cooper et al., 2009; Myer et al., 2007; Nattabi et al., 2009). However, another study conducted in Ethiopia among men and women living with HIV found no significant relationship between a respondent's fertility intentions and his or her partner's HIV status (Tamene, & Fantahun, 2007). In the facility based cross - sectional study by Daire (2011), the main reasons for unmet need were unwillingness of the spouse to use contraception, lack of access to FP methods and fear of side effects. In addition, most respondents preferred integration of contraception provision to women on ART into the ART clinic (Daire, 2011). Women's ability to negotiate contraceptive use may be limited therefore; providers must consider gender roles when discussing method choice with clients.

In addition to these barriers, there are also some misconceptions and myths surrounding use of contraceptives in Malawi. Some of these are that oral contraception and IUDs can cause cancer and other illnesses, contraceptive use before having a child can cause impotence or infertility, condoms and IUDs can be stuck inside a woman's body. Furthermore, women become infertile because of using contraception, women who use pills and injections develop pimples, condoms may burst inside and enter the uterus, and that contraceptive pills may make women have many children (USAID, 2011). In

view of these, there is still much to accomplish to change the social norm around the use of FP services.

Conclusion

Literature has shown that despite being beneficial to both mother and child health outcomes, there is still very low utilization of family planning among clients on ART. From literature, there are a number of factors contributing to this like, influence of the spouse, culture, fear of side effects, level of education, models of delivery of FP services at the health service institutions, and the perspective of health care providers towards FP for clients on ART. This literature is from around the world including some from Malawi however, there is no literature from Dedza district. This study hopes to bridge this gap by providing family planning utilisation literature among women on ART from Dedza district.

CHAPTER 3

Methodology

Introduction

This section explains the methodology, for this study. It has the following components: research design, setting where the study took place, study population, sampling, sample size, data collection procedure, data management, and data analysis.

Research design

This study used a descriptive quantitative study design that employed quantitative data collection and analysis methods. This design helped to use statistical analysis for the collected data, as well as identify and establish relationships between the research variables. In addition, the descriptive design helped to observe and describe aspects of family planning utilisation among women on ART at Dedza District Hospital. It identified attributes of a large population from a small group of individuals by generalizing from a sample to a population. Furthermore, this design was inexpensive and time serving considering that the researcher was just a student who did not have adequate resources and time to conduct a research study.

Study setting

The study was conducted at Dedza District Hospital (DDH) ART clinic. DDH is a public hospital under the Ministry of Health. From the facility's unpublished data of 2014, it showed that the health facility is a center of ART services delivery in Dedza and is a referral hospital for 30 HTC clinics in the district. These include government, CHAM health centers, and private clinics. Dedza district is located in the central region of

Malawi. There is Ntcheu to the south, Lilongwe to the north, Salima to the east and Mozambique to the west. It is 209 square kilometers and according to the 2013 population projections of the Malawi 2008 population and housing census, it has a total population of 702,497. Men are 339,365 and females are 363,132; out of these, 160,875 (44%) are women of child bearing age (15-49 years) (National Statistical Office (NSO), 2008).

Dedza district was chosen as the site for this study because data from the demographic and health survey (2010) indicated that contraceptive prevalence rate for Dedza district was at 45.5% (NSO & ICF Macro, 2011)**,** which is low.Considering that the district hospital is a referral centre for HIV positive clients from 30 sites in the district, it was considered the right site to assess the utilisation of family planning among women on ART at the district hospital, which is the primary outcome of the study.

Study population

The study population included all women of reproductive age (15-49 years) attending ART clinic at Dedza district hospital during data collection period.

Inclusion criteria

- Women of reproductive potential living with HIV on ART
- Ability and willingness to provide informed consent
- Women 15 – 17 years old whose guardians were able and willing to provide informed consent on their behalf since the laws of Malawi do not allow this age group to provide consent because they are minors.
- Women 15 – 17 years old who were willing to assent to participate in the study after their guardians had provided consent.

Exclusion criteria

- Women who reported to be past the reproductive age of 49 years of age and reached menaupose, but sexually active and on ART: these would less likely use FP methods.
- Women who were seen to be very sick (physically or mentally) or reported to have very sick patients.
- Women who reported history of hysterectomy or had available medical records (health passport or other documents)
- Women who were not willing to provide consent
- Women 15-17 years old whose guardians were not willing to provide consent for them
- Women 15-17 years old who were not willing to assent to participate in the study

Sampling criteria

The researcher extracted names of all female clients from the daily booking diary of clients attending ART clinic, and recorded them in a separate diary; this was the sampling frame. A sampling frame is a comprehensive itemized list of every member of the population, which comprises the study population from which a sample is taken (Gerrish, & Lacey, 2010). To select a study sample from the study population, the researcher used simple random sampling by randomly selecting respondents from the sampling frame using probability-sampling theory. The sampling frame numbered systematically all respondents to give them an equal selection chance for the sample. On daily basis, the researcher extracted numbers from the sampling frame of all women who attended the clinic that day and were meeting the inclusion criteria, wrote them on pieces

of paper, folded and mixed them in a box. Then research assistants randomly picked 50% of the papers from the box in order to have a sample for that day until we reached the sample size.

Sample size

The researcher used an estimate of 45.5% contraceptive prevalence of Dedza district, based on MDHS 2010 (NSO & ICF Macro, 2011)**,** as the primary outcome of the study, with 5% marginal of error and 95% confidence interval to get the sample size. Using the above parameters the coefficient (z) was 1.96 for 95% confidence level, proportion (p) was 0.46 and margin of error 0.05. Based on this assumption, the actual sample size for the study was 382 study participants, determined using the formula for simple random sampling using single proportions given by Kish Leslie, 1965 (Kalton & Heeringa, 2003).

Sample size calculations

$n = z^2\ p\ q \div d^2$

Where n = Sample size

z = z value corresponding to a 95% level of significance = 1.96

p = expected proportion of population practicing FP = 45.5% = 0.455 = 0.46 (NSO, & ICF Macro, 2011)

q = (1 - p) = (1-0.46) = 0.54

d = absolute precision (5%) = 0.05

Therefore from the above, sample size is:

$n = (1.96 \times 1.96) \times 0.46 \times 0.54 \div 0.05 \times 0.05$

$n = 0.95425344 \div 0.0025$

= 381.701376

n = 382

Data collection

Data collection instrument

The researcher used a structured questionnaire containing 60 items developed in English (Appendix VI) and translated into Chichewa (Appendix VII) because some of the participants were not English literate. The researcher back translated the Chichewa version questionnaire into English to ensure that the meaning of the questions did not change in the translated version prior to their use. It had both closed ended and open-ended questions. The researcher designed this instrument for the study. In the closed ended questions, the researcher specified response alternatives ranging from simple yes or no to complex expressions of opinion. The purpose of these questions was to ensure comparability of responses and to facilitate analysis because they were easier to analyse. These questions were more efficient because the researcher was able to complete more questions in a short period. However, the disadvantage of these closed ended questions was that they were difficult to construct, the researcher could overlook some important responses and could be superficial. In addition, some respondents could have chosen alternatives that did not reflect their opinions. On the other hand, the open-ended questions allowed participants to respond to questions in their own words and the interviewer wrote down the responses verbatim. These questions were easier to construct and allowed the researcher to collect reach data, but these questions could not get good answers if the respondents were not verbally expressive and cooperative. Colleagues reviewed the draft instrument and then pre-tested with five women on ART at Mtakataka

health center. The pre-test helped to determine whether the instrument would generate desired information.

The instrument contained three parts; part A, B and C. Part A contained demographic data. Part B had two sections; section one asked about contraception and section two asked about current utilisation of FP methods. Part C asked about factors influencing use of FP methods and contained two sections as well; section one asked about reproduction and section two asked about social cultural issues. Some of the demographic data were measured on a continuous scale like age, and the rest of the questions were measured on a categorical scale.

Validity

Validity is the capacity of a tool to give a true result (Bruce, Pope, & Stanistreet, 2008). Initially, on **content validity**, the researcher presented the questionnaire to research experts to assess the contents of the tool for logical and comprehensiveness so that it included the full scope of the characteristics as well as accuracy in its ability to measure what it intended to measure. The experts were the researcher's supervisor who has specialty in community health nursing and midwifery research, and the Research Director of the college. They reviewed it, commented and made corrections. This helped the researcher to obtain substantive clinical and methodological feedback before conducting the research. The researcher incorporated the comments into the final instrument version.

Secondly, on **face validity**, the researcher pre-tested the questionnaire at Mtakataka health centre in Dedza, along the lakeshore area for subjective assessment of the presentation and relevance of the questionnaire to eliminate weaknesses, ambiguity

and test if the data gathered actually answered the specific research objectives. In addition, it helped to assess flow of the questions, adequacy of instructions, misunderstood or skipped items and if the time taken to complete the interview was reasonable. This assisted the researcher to make corrections where necessary. The pretesting process interviewed five women in the reproductive age, on ART. This helped the researcher to collect data, which ensured meaningful and useful inferences because she used a tool that accurately captured the required data.

Finally, on **external validity,** the researcher used randomization to recruit the sample from the population of women on ART at the clinic. With the random sampling, each individual in the population of women on ART had an equal ability of being chosen, and the representative sample from the population provided the ability to generalise the results to this population.

Reliability

The researcher ensured reliability by conducting a pre-test to check for consistency of the item's responses. To obtain accurate and consistent information, the researcher standardized the data collection tool so that it collected all data in the most consistent manner possible. Before the interviews, the researcher explained the interview process and purpose of the research so that participants understood instructions and content of the instrument. This helped the participants to answer the questions in an accurate manner, without bias since they understood the purpose of the study. The researcher made sure she recorded, compiled, entered and analysed the data accurately. She did this to make sure the instrument collected consistent and dependable data. The researcher conducted supportive supervision for the research assistants by doing random

sit in sessions to observe the conduct of the sessions. She heard meetings with the assistants to address problems and clarify issues that could hamper quality data collection and this boosted their morale in collection of quality data. At the end of each day, she checked the questionnaires for completeness, accuracy and addressed the identified gaps with the respective research assistants.

Data collection process

The researcher and three other data collectors who were qualified nurses and midwives (research assistants) selected from the hospital conducted face-to-face interviews in local language (Chichewa) each in about 30 minutes in six weeks, from October to November 2014. Face-to-face interviews have a high response rate, gather quality data as the interviewer is physically present, and observe the participant during the interview. However, they need a lot of time, need to train interviewers, in addition they have a high possibility of interviewer bias. There was immediate recording of information on the questionnaire as the participants gave the responses. All participants responded to the same questions in exactly the same order.

The research assistants underwent a one-day practicum training to equip them with the basic knowledge, attitudes and skills for data collection. The training focused on participant handling skills such as interviewing skills, content and meaning of questions, correct recording of responses, and orientation to study objectives and procedures. They got information on ethical issues such as the need to observe confidentiality and obtain informed consent from participants prior to administering study tools. They had an orientation on the questionnaire for better understanding before data collection from the participants to speed up the data collection process and minimize interviewer bias.

The researcher collected data during working hours, thus 7.30 am to 5 pm. To recruit the participants, staff working at the clinic introduced the researcher and the research to the clients attending the clinic as they arrived at the reception. Then the researcher briefed the women about possible study participation. Before approaching 15-17 years old women, the researcher verified from their legal guardians if their clients were aware of their HIV status; and asked the guardians if they could give consent on their behalf since the law does not allow the owners to give consent due to their age. The researcher asked the under aged clients whose guardians accepted to provide consent, to assent to participate in the study.She directed those who showed willingness to a private room where the participant information sheet was read to them (Chichewa version, Appendix IV**).** This contained information stating the aims of the study, and expectations from individual potential participants. Women who met the eligibility criteria had an informed consent administered to them and the minor participants provided assent. Upon understanding the information given, the consenting and assenting participants got a number to write on the consent and assent forms as proof of their voluntary participation in the study. This number also appeared on the questionnaire used to collect data from the participant.

Data management

The researcher numbered all questionnaires consecutively in preparation for data entry and kept them in a sealed envelope to ensure safety and privacy. She carried them to her College premises at KCN for data entry and analysis. After data analysis, she kept all the analyzed information in the computer and flash disk protected by a password

known to her only. The researcher kept the questionnaires with information at KCN archive and will be destroyed after dissemination of results.

Data analysis

The researcher checked the questionnaires to determine if all questions had answers. Then cleared, coded and entered the data into Statistical Package for Social Sciences (SPSS) soft ware version 16.0, for analysis. She computed descriptive statistics in the form of frequencies, percentages and measures of central tendency for the data set. The variables were demographic characteristics and factors that influenced use of family planning. Demographic variables included age**,** marital status, educational level, religion, residence and tribe while factors that influenced use of family planning included reproductive, contraceptive and social/cultural factors.

Initially, associations between utilisation of FP methods (dependent variable) and each of the potential factors associated with FP use (independent variables) were determined using chi-square test at the 5% level of significance. Chi-square test was chosen because the variables were measured on a categorical scale. The null hypothesis tested was that 'there was no association between utilisation of FP and the demographic variables and factors influencing use of FP'. The hypothesis related the variables so that inferences could be drawn from the sample to the population. The results were presented in figures and tabular form. Analysis of the results revealed that parity of the participants was the significant predictor of family planning utilisation for women on ART in Dedza at ($P< 0.05$). This report helped to reject the null hypothesis that there was no association between utilisation of FP and the demographic variables and factors influencing use of FP. This could be because women with more children were four times more likely to use

FP methods than those with one or no child at all. This explanation refers back to the theory of health promotion model where women would use family planning after perceiving benefits of the health promotion behaviour. After experiencing child birth and raring, women appreciates the problems of having frequent pregnancies and raring a number of children, then they opt for family planning utilisation to space or limit child birth. This situational factor acts as a cue to action to the likelihood of engaging in health promotion behaviour, which is family planning utilisation.

Ethical considerations

To ensure respect for ethics and respondents' rights, prior to data collection, the researcher submitted the study proposal to College of Medicine Research and Ethics Committee (COMREC) for ethical review and approval. COMREC reviewed and approved the proposal on 9 October 2014 (Appendix IX). After obtaining the written approval from COMREC, the researcher submitted a copy of the approval certificate and the study proposal to Dedza District Health Office (DDHO) to obtain a written permission for data collection (Appendix VIII).

The researcher ensured privacy and confidentiality of study participants throughout the study by collecting data in a private room and by using identifiers, which were sequential numbers assigned at data collection and not actual names of participants**.** Only the Principal Investigator and the research assistants accessed the collected information. The completed questionnaires and all documents with participant information were stored in sealed envelopes and placed under lock and key.

Study participation was voluntary and participants were free to withdraw their consent at any time during data collection**.** The researcher respected and observed rights

of the participants throughout the research process. This helped to gain respondents' cooperation and acceptance to participate in the study.

Prior to data collection, the researcher assured them of absence of physical risks associated with participation in the study.The researcher informed the participants about the purpose of the study, methods and procedure of data collection and benefits of the study by reading to them the participant information sheet (English version appendix II, Chichewa version, appendix IV) to obtain an informed consent and assent. In case of any psychological trauma, the researcher counselled the participants since she is a nurse and has counselling skills.

After the participants' evaluation of the potential risks and benefits of participating in the study, those willing to participate in the study got a consent form to sign (English version appendix III, Chichewa version appendix V). The researcher verified the awareness of HIV status of possible participants below 18 years from their legal guardians before approaching them; and asked the guardians if they could give consent on behalf of their clients since the law does not allow the owners to give consent due to their age, and those that accepted also signed the consent form. The researcher also asked these under aged clients to assent even if their guardians gave informed consent on their behalf. Likewise, those that accepted signed an assent form. Illiterate clients stamped the form with their thumbs. The researcher also signed the consent and the assent forms and both parties kept a copy of the signed form and the participant information sheet.

CHAPTER 4

Study Findings

Introduction

This chapter shows the findings of the study. The setting for this descriptive quantitative study was the ART clinic of Dedza district hospital. The researcher conducted face-to-face interviews to 382 women of reproductive age using a structured questionnaire over the period of six weeks from October to November 2014. One of the study's inclusion criteria was age of women 15-49 years old. However, there were no 15 year olds found at the clinic during the time of study. In addition, the exclusion criteria included very sick women and there were no sick women during the study period. Selection of participants was through simple random sampling, and used the formula for simple random sampling using single proportions to calculate the sample size. The data were analysed using SPSS version 16.0 and computed descriptive statistics for the data set. Associations between the variables were investigated using Chi-square test at 5% level of significance.

The Health Promotion Model by Nola Pender (1987) guided these results, by presenting determinants of family planning utilisation among women on ART. These determinants included cognitive perceptual factors, which are primary motivational mechanisms for acquisition and maintenance of family planning use. In addition, the study found modifying factors that affected patterns of family planning utilisation through their impact on the cognitive perceptual mechanisms. Finally, the study also found cues to action that influenced the likelihood of utilising family planning methods that originated from both internal and from the environment.

Demographic characteristics of respondents

This section summarises demographic characteristics of the respondents sampled in the study. The demographic data included age of the respondents, marital status, education status, denomination, residence and tribe. Of the 382 women who met the inclusion criteria, the mean age (±SD) of the respondents was 33.34 ± 7.337 years; the age range was 16-49 and the mode was 32 years with a confidence interval of (23.3 – 32.2) at 95%. Married women constituted about two thirds of all respondents 247 (64.7%). Although above half of the respondents 246 (64.4%) had some education, most of them 176 (46.1%) had just attained primary level education. The majority of respondents were Christians (93%) and most of these 179 (47%) were followers of protestant Christianity, 7% were Muslims and 0.3% followed traditional beliefs (gule wamkulu). Regarding ethnic self-identification, Ngoni was the largest ethnic group comprising over half of the respondents 217 (56.8) followed by the Chewa 122 (31.9%). The majority of respondents 236 (61.8%) resided in the rural area of the district. Table 1 presents details of demographic variables of the participants.

Table 1: Demographic characteristics of the 382 women enrolled in the study

Variable	Frequency	Percentage
Age		
< 20	17	5%
21-29	97	25%
30-39	184	48%
40-49	84	22%
Marital status		
Married	247	65%
Single	11	3%
Widow	56	15%
Divorced	60	16%
Separated	8	2%
Education		
Attended school	246	64.40%
Primary	179	72.70%
Secondary	64	26%
Tertiary	3	1.22%
Denomination		
Catholic	113	29.60%
Protestants	179	46.90%
Islam	27	7.10%
Pentecostal	62	16.20%
Others	1	0.30%
Residence		
Urban (Dedza)	136	35.60%
Rural (Dedza)	236	61.80%
Mozambique	10	2.60%
Tribe		
Chewa	122	31.90%
Ngoni	217	56.80%
Yao	27	7.10%
Tumbuka	3	0.80%
Lomwe	10	2.60%
Tonga	1	0.30%
Sena	1	0.30%
Other	1	0.30%

Current FP utilisation for all methods by respondents

This section presents information on the prevalence of current utilisation of FP methods among women age 15-49 on ART in Dedza district. The level of current use was the measure of actual contraceptive practice at the time of the study. The researcher asked the respondents if they were doing anything to delay pregnancy or limit childbirth. Findings showed that just above half 210 (55%) of the respondents were utilising family planning methods at the time of interview, these had a met need for FP. Out of those utilising a contraceptive method, 107 (51%) were utilising a single method and 103 (49%) were utilising dual methods.

FP methods frequently utilized by respondents

Among the types of FP methods used by the respondents receiving ART at Dedza District hospital, male condoms were the most used method 137 (65.2%). Other than condoms, an injectable hormone Depo-Provera 78 (37.1%) was the second most used modern method. On other methods, 3 (1.4%) were abstaining and 1 (0.5%) utilised rhythm method. Table 2 presents current use of specific contraceptive methods among women on ART in Dedza district.

Table 2: Family planning methods used by respondents (N= 210)

FP method	Frequency	Percent
Modern		
Male condom	137	65.20%
Injectable	78	37.10%
Pill	11	5.30%
Implant	20	9.5%
Intrauterine device	4	2%
Female condom	16	7.60%
Female sterilisation	58	27.60%
Other		
Total abstinence	3	1.4%
Rhythm	1	0.50%

Respondents who stated that they were utilising condoms, only 28 (18%) were using it as a family planning method while the rest, 125 (82%) were using condoms as a way of preventing transmission of HIV and AIDS plus other sexually transmitted infections. Although 153 respondents reported utilising condoms, less than half, 74 (48.4%) were using the condoms consistently.

Factors that influence utilisation of family planning methods among women on ART

These were determinants of FP utilisation among respondents. They acted as cues to action of utilising FP methods as described in the Health Promotion Model.

FP use and background characteristics

This section examines associations between a woman's background characteristics and her family planning utilisation. Findings showed that a higher percentage of respondents in the 30-39 age group had a higher percentage (60%) of FP

utilisation with the least from the below 20 age group. Most married women (67.6%) were utilising FP methods and only 18.2% of the single women were on a FP method. By denomination, a high percentage of the Protestants were using a FP method. Although most respondents were from the rural area (246), only about half (51%) were utilising FP methods compared to their urban counter parts where 62.5% were on a FP method. Table 4 presents the demographic characteristics of the respondents and FP utilisation.

Table 3: Demographic characteristics and FP utilisation

Variable	**Utilisation of FPM**		
	N	**Frequency**	**Percentage**
Age			
< 20	17	6	35%
21 -29	97	57	59%
30 -39	184	110	60%
40 - 49	84	37	44%
Education			
Attended education	246	138	56%
No education	136	72	53%
Marital status			
Married	247	167	67.6%
Single	11	2	18.2%
Widow	56	15	26.8%
Divorced	60	23	38.3%
Separated	8	3	37.5%
Denomination			
Catholics	113	58	51.3%
Protestants	179	109	61%
Islam	27	15	55.6%
Pentecostal	62	28	45.2%
Other	1	0	0%
Residence			
Urban	136	85	62.5%
Rural	246	125	51%
Tribe			
Chewa	122	64	52.5%
Ngoni	217	122	56.2%
Yao	27	16	59.3%
Tumbuka	3	1	33.3%
Lomwe	10	5	50%
Tonga	2	2	100%
Sena	1	0	0%

Respondents' knowledge of contraceptive methods

The researcher asked the respondents to mention ways or methods by which a couple can delay or avoid pregnancy in order to obtain information on their knowledge of FP methods. If the respondent failed to mention a particular method spontaneously, the interviewer described the method and asked whether the respondent had heard of it. For each method known, the researcher also asked if they knew how it works. Classifications of the contraceptive methods were modern, traditional and other methods. Modern methods included female sterilisation, male sterilisation, pill, IUD, injectables, implants, male condom and female condom. While traditional methods included those, found locally or obtained from traditional healers or traditional birth attendants like herbs. There was also a provision in the questionnaire to record any other methods mentioned by the respondents including rhythm (periodic abstinence), withdrawal and total abstinence.

Knowledge of contraceptive methods was universal in Dedza district among women on ART (Table 5). All the respondents 382 (100%) knew at least one method of contraception. An injectable method, Depo provera was the most known method 379 (99%) followed by male condoms 376 (98%).

Table 4: Respondents' knowledge on contraceptive methods (N= 382)

Family planning method	**Frequency of those who know**	**Percentage**
Tubal ligation	364	95%
Vasectomy	273	71.5%
Pill	372	97%
Intra uterine device	349	91.4%
Injection (Depo-Provera)	379	99%
Implants	370	97%
Male condoms	376	98%
Female condoms	343	90%
Traditional methods	99	26%
Others		
Abstinence	13	3.4%
Rhythm	34	9%
Withdrawal	4	1%

Modern methods were more widely known by respondents than traditional and other methods; 100% of the respondents knew of modern methods while only 26% knew of traditional methods and about 13% knew about the other methods. Although 100% of the respondents heard about methods of contraception, no respondent reported having knowledge of how these methods work.

Respondents' knowledge of centres providing FP methods

Knowledge of centres providing FP methods in the district is essential to determine if women know where to go if they needed a contraceptive method. In this study, the researcher asked the respondents if they knew any place in the district where

women go to obtain contraceptive methods if they needed them. Out of the 382 respondents, 371 (97%) had knowledge of centers providing family planning in the district. Most of them 369 (99.5%) knew that the public hospitals provide family planning methods. Some respondents mentioned traditional healers as places where one could get a family planning method. Figure 3 below illustrates centers providing FP methods mentioned by respondents.

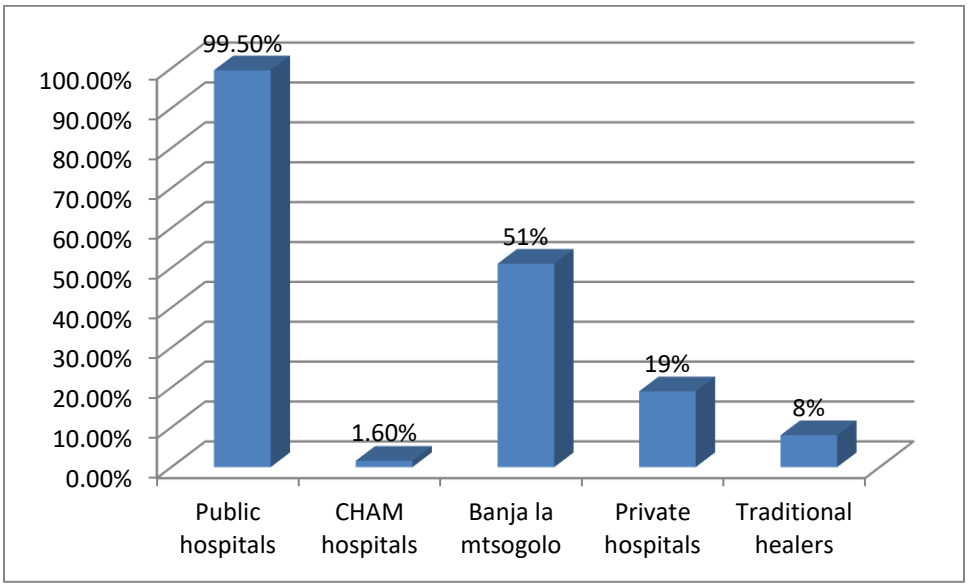

Figure 2: Centers providing family planning methods mentioned by respondents (N= 382)

Family planning services at the district hospital

The researcher asked the respondents if they knew where they could get family planning services at the district hospital. Three hundred and forty one (89.3%) respondents mentioned the family planning clinic as a place where one could get family planning methods at the district hospital while only 100 (26.2%) mentioned the ART clinic.

Accessibility of FP services in the district

Accessibility of family planning services could be a determinant of FP utilisation by women in the district. The researcher asked the respondents if women who needed FP services in the district accessed the services when they needed them. Findings indicated that 353 (92%) reported that women who wanted family planning methods accessed the methods at will. The ART clinic was where the respondents got all their health care services, therefore the researcher wanted to know if the clinic was meeting their FP needs. The results showed that the ART clinic met family planning needs of only 58 (15.2%) respondents although 217 (56.8%) respondents reported getting FP counseling at the ART clinic.

In this study, the researcher asked the respondents if a health surveillance assistant (HSA) or community based distributing agent (CBDA) had visited them in the past 12 months preceding the interview to talk about FP. This information was useful to determine whether women were accessing FP services through outreach programs. The results indicated that HSAs visited only 39 (10.2%) respondents for family planning while CBDAs visited 47 (12.3%) respondents.

Source of contraception

The information on where women on ART obtained their FP methods is useful for ART and FP coordinators and implementers on proper provision of FP services for women on ART in the district. In this study, the respondents who reported that they were currently using FP methods at the time of interview were asked where they obtained the method the last time they acquired it. About half of the respondents utilising family planning methods from the district hospital, 106 (50.5%) got the method from the family planning clinic and 64 (30.5%) got the method from the ART clinic. In addition, 25 (12%) got it from Banja la Mtsogolo (BLM), a private facility and the rest 15 (7%) got it from other private clinics in the district. Figure 1 presents the source of contraceptives.

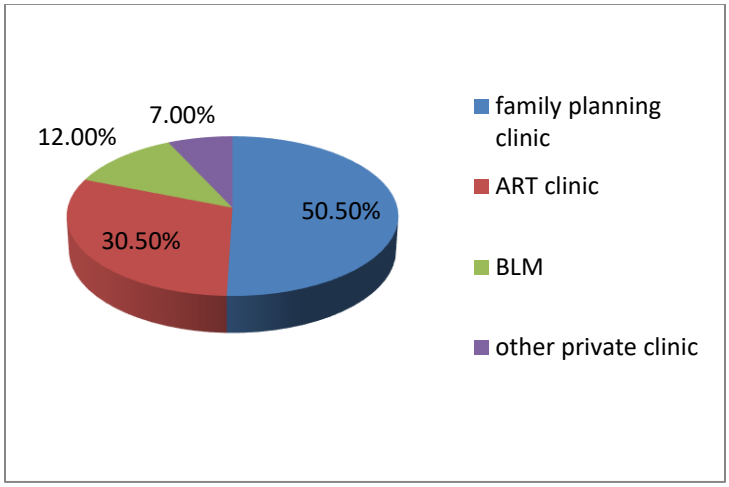

Figure 3: Where respondents got family planning methods (N= 210)

Parity at first use of FP

Couples use FP methods either to limit family size or to delay the next birth. To control family size (to stop having children), many couples adopted contraception when they had already had the number of children they wanted. When contraception is used to space births, couples may start to use FP earlier with the intention of delaying a pregnancy. The researcher asked the respondents in this study how many children they

had at the time they started using the method of contraception. Most of them 160 (76.2%) started utilising family planning methods when they had more than one child while 47 (22.4%) started utilising the methods after having one child and only 3 (1.4%) did not have a child when they started utilising family planning methods.

Future use of contraception

An important indicator of the changing demand for FP is the extent to which non-users plan to use contraceptive methods in the future. In this study, the researcher asked about the intentions of future use of FP methods of respondents who were not using any FP method at the time of interview. Above half 123 (64%) of the non-users had a desire to utilise FP methods in future (Figure 2).

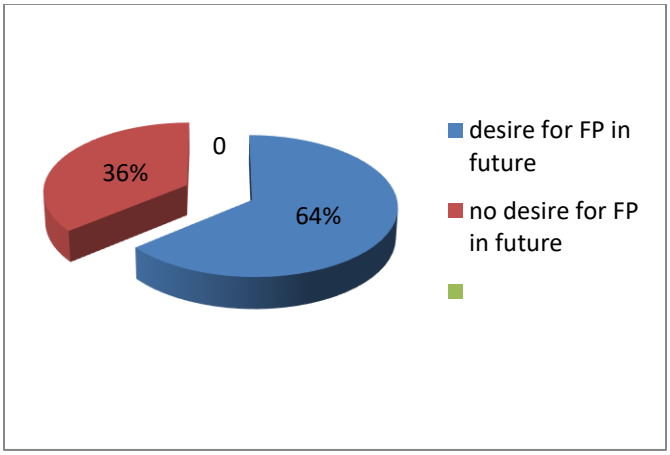

Figure 4: Respondents' desire for FP in future (N= 172)

The respondents had their reasons for utilising or not utilising FP methods. The respondents' reasons are presented in Table 3.

Table 5: Respondents' reasons for utilising or not utilising FP methods

Reason for not utilising FP **N = 172**	**Frequency**	**Percentage**	**Reason for utilising FP** **N = 210**	**Frequency**	**Percentage**
Just delivered	14	8%	Enough children	56	26.7%
No child	8	4.7%	Afraid of death	3	1.4%
Pregnant	9	5%	Afraid of MTCT	5	2.3%
Abstaining	2	1%	Divorced	14	6.7%
PMTCT	28	16%	Old to be pregnant	10	4.8%
Divorced	15	8.7%	Counseled not to be pregnant	2	1%
Feels can't be pregnant	2	1%	Pregnancy lowers immunity	17	8%
HCW refused to give her the method at FP clinic	1	0.60%	Afraid of living orphans	5	2.3%
Husband is away	8	4.7%	Wants healthy child	46	22%
Husband wants child	3	1.7%	Economic problems	8	3.8%
No live child	2	1%	Gender based violence	3	1.4%
Supplies out of stock	1	0.60%	Obstetric complications	9	4.3%
old to be pregnant	4	2.3%	Poor health	9	4.3%
On separation	7	4%	Wants healthy life	12	5.7%
Rumours and misconceptions	3	1.7%	Husband refuse HTC	1	0.5%
FP side effects	10	5.8%	Widow	10	4.8%
Single	5	3%			
Waiting for tubal ligation	2	1%			
Wanted a child	12	7%			
Widow	36	21%			

Informed choice

Informed choice is an important tool for assessing and monitoring the quality of FP services offered to users. The researcher asked the respondents who were utilising FP methods whether they were informed about side effects or problems they might have with the method, what to do if they experienced side effects and information on other methods they could use. This information assists users in coping with side effects and decreasing unnecessary discontinuation of contraceptive methods. The results showed that below half 85 (40.5%) of contraceptive users got information on side effects of the methods from health care workers and out of these, 83 (97.6%) were told what to do if they experienced the side effects. Health care providers informed 254 (66.5%) respondents about all available family planning methods that they could choose from if they needed one.

Fertility

History of ever delivering a child can be a determinant of family planning methods utilisation. Likewise, sex of the children a woman had also determined whether to delay pregnancy or control births. In this study, the respondents were asked if they had ever delivered a child; if yes, number of boys and girls and how many of each sex were alive. The findings indicated that almost all the respondents 365 (95.5%) had ever delivered; 205 (56%) had more than one girl child of which 186 (57%) had more than 1 live girl child, and 180 (49%) had more than one boy child of which 158 (50%) had more than one live boy child (Table 6).

Table 6: Number of respondents with children by sex (N= 365)

	Girls	Percent	Boys	Percentage
One	120	33%	136	37%
More than one	205	56%	180	49%
None	42	11%	51	14%
Alive				
One	129	40%	135	43%
More than one	186	57%	158	50%
None	10	3%	23	7%

Desire to limit child bearing

Overall, most of the respondents 271 (71%) indicated no desire for more children in future and 111 (29%) still desired to have a child in future (Figure 4). However, out of those who had no desire for children in future, just above half 156 (57.6%) were using FP methods, while 115 (42.4%) were not using FP methods. The respondents who do not have a desire for children in the future but are not using FP, have an unmet need for FP. Therefore, 42.4% of the women on ART at Dedza district hospital had an unmet need for FP.

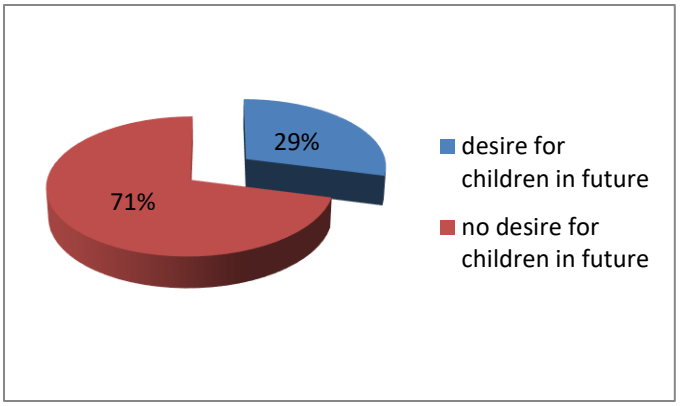

Figure 5: Respondents' desire to have a child in future (N= 382)

Fertility intentions

The researcher investigated the issue of unplanned or unwanted fertility by asking the pregnant women on ART whether the pregnancy was wanted at the time (planned), wanted later (mistimed) or not wanted at all (unwanted). There were 21 (5.5%) pregnant respondents at the time of interview and two (0.5%) respondents were not sure whether they were pregnant or not. Out of the pregnant respondents, 7 (33.3%) were in the first trimester, 8 (38%) were in second trimester and six (28.6%) were in third trimester. Thirteen pregnancies (62%) were wanted, one (5%) was mistimed while seven (33%) were unwanted.

Fourteen respondents had just delivered their babies that week or the previous week of interview.

HIV and AIDS

All respondents were on ART however, 170 (44.5%) had been on ART for more than two years, 122 (32%) were on ART for less than a year and 90 (23.6%) respondents were on ART for 1-2 years. The researcher asked the respondents if HIV and AIDS had affected their decision on FP planning utilisation. Out of the 382 respondents, HIV and AIDS affected only 121 (32%) respondents on utilisation of family planning methods, and 83 (69%) of the 121 were utilising a family planning method. From the 83 respondents that utilized family planning methods, 26 (31%) utilized it because they were afraid of MTCT however, 24 (63%) were also afraid of MTCT but were not utilising any family planning method.

Nevertheless, HIV and AIDS did not affect 261 (68%) respondents on their utilisation of FP methods. Out of these, just above half, 154 (59%) were utilising FP

methods and most of those that utilized FP methods 50 (32%) were utilising it because they had enough children. On the other hand, there were 107 (41%) that were not utilising FP methods and most of them 29 (27%) were not using FP because they would be enrolled in the PMTCT program which would help them prevent transmitting the HIV to their babies. Table 7 below illustrates respondents' reasons for being affected or not on family planning utilisation by HIV and AIDS.

Table 7: Reasons for respondents reporting that HIV and AIDS affected or did not affect their utilisation of FP

HIV and AIDS affected FP utilisation (N= 121)				**HIV and AIDS did not affect FP utilisation (N=261)**			
Utilising FPM (N = 83)		**Not utilising FPM (N = 38)**		**Utilising FPM (N=154)**		**Not utilising FPM (N= 107)**	
Reason	**Frequency %**	**Reason**	**Frequency (%)**	**Reason**	**Frequency (%)**	**Reason**	**Frequency**
Afraid of MTCT	26 (31%)	Family planning SE	4/ 3.7%	Enough children	50/ 32%	Use PMTCT	29/ 27%
Lowers immunity	18 (22%)	No live child	3 (8%)	Healthy babies	46/ 30%	Widow	20/ 19%
Afraid of death	13 (15.7%)	Poor health	3 (8%)	Economic problems	19/ 12%	Divorced	14/ 13%
Poor health	6 (7.2%)			Obstetric complications	18/ 12%	Old to be pregnant	13/ 12%
Discordant couple	1 (1.2%)			Healthy life	9/ 6%	Never been pregnant	7/ 6.5%
Counselled not to be pregnant	5 (6%)			Planned number of children	6/ 4%	Family planning SE	4/ 3.7%
Afraid of living	3 (3.6%)			Gender based	5/ 3%	Husband	3/ 2.8%

orphans				violence		wants children	
				Delivery is too painful	1/ 0.6%	Wanted a child	2/ 2%
						Just delivered	2/ 2%
						Young in school	2/ 2%
						Single	2/ 2%
						Husband is away	2/ 2%
						No live children	2/ 2%
						Is on separation	1/ 1%
						Didn't know where to get it	1/ 1%
						Has 1 live child	1/ 1%

Social/cultural factors

Social/cultural factors are also a great determinant of utilisation of health care services among women especially FP services. Among these factors are number of children with the present spouse and support of the spouse on FP utilisation. In addition, encouragement from peers, religion and one's culture also influence a woman's utilisation of FP methods. In this study, 193 (78%) respondents who were married then, had children with their present partners and 147 (76.2%) were utilising family planning methods. Forty (21%) had one child with their present partner and 153 (79%) had more than one child. Out of those that had one child, 27 (67.5%) were using family planning methods while out of those that had more than one child, 120 (78.4%) were on a family planning method. Among these married women, 211 (85.4%) discussed family planning with their partners and 158 (74.9%) utilised family planning methods. Some partners, 198 (80%) encouraged their spouses to utilise family planning methods. Although 41 respondents did not discuss family planning with their partners and 54 partners did not encourage their spouses to use family planning, 16 (39%) and 21 (38.9%) respondents respectively utilised family planning methods (Figure 5). Out of 278 respondents who were encouraged by their peers, 202 by their religion and 245 by their culture; 177 (63.7%), 122 (60.4%) and 149 (60.8%) respectively, utilized family planning methods.

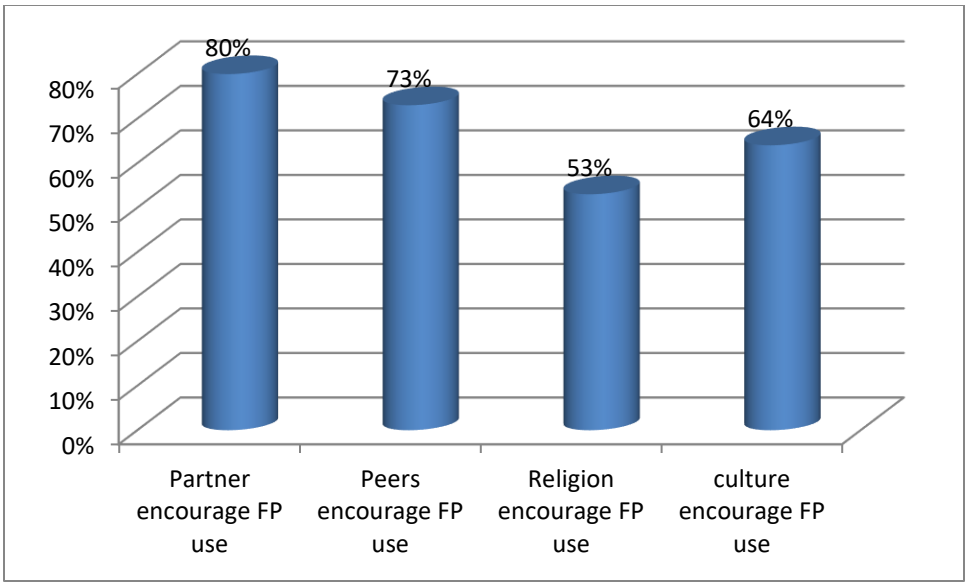

Figure 6: Respondents' social support for FP use (N = 382)

Access to mass media

The researcher collected information on the respondent's exposure to common print and electronic media by asking the respondents how often they read a newspaper, listened to the radio or watched television. This information was important because it indicated the extent of mass media exposure to the women, often used to convey messages on family planning and other health topics. Data on exposure to mass media for the respondents indicated that just above half of the respondents (n=382), 215 (56%) listened to the radio daily and out of these, 60.5% were on a family planning method; while out of 139 (36.4%) that did not listen to the radio at all, only 45.3% were on family planning methods. Likewise, from those that read newspapers daily (n=6), five (83.3%) were using family planning methods and out of 273 that did not read newspapers, 53.8% were using family planning methods. Similarly, out of 49 respondents that watched television daily, 69.4% were using family planning methods and from 322 that did not

watch television, only 53% used family planning methods. Table 8 shows respondents' access to mass media.

Table 8: Respondents' access to mass media (N= 382)

Frequency	**Listens to radio**	**FP utilisation N (%)**	**Reads news paper**	**FP utilisation N (%)**	**Watches television**	**FP utilisation N (%)**
Daily	215	130(60.5%)	6	5(83.3%)	49	34(69.4%)
Once a week	9	7(77.8%)	7	4(57.1%)	5	4(80%)
Less than once a week	19	10(52.6%)	96	54(56.2%)	6	1(16.7%)
Not at all	139	63(45.3%)	273	147(53.8%)	322	171(53.1%)

Preference of sources of FP methods

Women on ART attend ART clinic for all their health care services. The researcher asked the respondents their preferred places to get FP methods. Out of 382 respondents, 293 (77%) preferred integrating family planning services into the ART clinic as a best way of providing family planning methods to women on ART. However, 129 (20%) preferred the family planning clinic as the best place to get family planning methods. On the other hand, other respondents 8 (2%) thought the best way was through community based distribution agents (CBDA) and a few, four (1%) thought either place was good because they did not see the difference. Table 9 displays reasons for these preferences.

Table 9: Respondents' preferences of source of FP

Integrating FP into ART clinic (N= 293)			**Getting FP at FP clinic (N=129)**		
Reason	**Frequency**	**%**	**Reason**	**Frequency**	**%**
Colliding dates waste time	119	41%	Family planning clinic	30	39%
Good counselling at ART clinic	46	16%	All methods are available there	24	31%
Privacy at ART clinic	26	9%	Can get proper counseling	11	14.3 %
Get all health care there	25	9%	Ease work at ART clinic	5	6.5%
ART (no reasons)	18	6%	To avoid segregating themselves	2	2.6%
No discrimination	15	5%	No discrimination	2	2.6%
Confidentiality	10	3.4%	There are men at ART clinic	2	2.6%
Health workers know drug interaction	6	2%	It's a women's clinic	1	1.2%
Peer support	6	2%			
Good relationship with health workers	6	2%			
Gets couple counseling	4	1.4%			
There is respect	4	1.4%			
To avoid different appointment dates	3	1%			
Good follow up	2	0.7%			
Gets PMTCT counseling	2	0.7%			
Counseling from expert clients	1	0.3%			

Associations with outcome

Chi square test at the 5% level of significance was used to establish the variables that were significantly associated with family planning. The results showed that demographic characteristics such as respondents' tribe, age and denomination were not significantly associated ($p>0.05$) with utilisation of FP methods. However, marital status and residence had a significant relationship with the respondent's utilisation of FP ($p< 0.05$). Condom use showed a significant association ($p <0 .05$) with utilisation of family

planning methods. There was also a significant association between places where participants got the FP method (p <0 .05) and FP utilisation.

On the factors influencing use of family planning, knowledge of FP providing centres and knowledge of a place where to get FP methods at the district hospital were significantly associated (p <0.05) with utilisation of family planning by respondents. Out of 371 who reported knowledge of FP providing centres in the district, just above half 208 (56%) were utilising FP methods. Out of the 341 respondents who mentioned the family planning clinic as a place where they could get FP methods, 191 (56%) were utilising FP, while 72 (72%) respondents out of 100 who mentioned the ART clinic, were utilising FP methods. In addition parity of respondents, knowledge of side effects and what to do when one experiences side effects had a great significant association (p <0 .05) with utilisation of FP methods; ever delivering a child and number of girl children were significantly associated (p<0.05) with the respondents' utilisation of family planning. However, having a live boy child (p> 0.05) had no significant association with utilisation of FP methods by the respondents. Similarly, desire for children in future had no significant association (p >0.05) with the respondents' utilisation of FP methods.

HIV and AIDS had a great relationship (p <0 .05) with the respondents' utilisation of FP methods however, period on ART did not have a significant relationship (p > 0.05) with the utilisation of FP methods. On social cultural factors, having children with the present sexual partner, number of the children, discussing FP with the partner, encouragement from the spouse and peers to use FP, showed great significant associations (p < 0.05) with the respondents' utilisation of FP methods. Furthermore, religion and culture had significant relationships with utilisation of FP methods at p

<0.05. When all the significant variables were used as predictors in a Logistic regression analysis with Family planning as the response variable, only parity of the respondents was the significant predictor to FP utilisation for women on ART, at Dedza district hospital ART clinic (P<0.05). Therefore, women with more children were four times more likely to use FP methods than those with one or no child at all.

Table 10: Associations with outcome

		Utilising family planning methods		
Variables	Total (n=382 (%)	Yes (n=210) (55.5%)	No (n=172) (44.5%)	P value (0.05)
Demographic characteristics				
Age				0.283
15-19	6 (1.6)	1 (16.7)	5 (83.3)	
20-29	108 (28.3)	62 (57.4)	46 (42.6)	
30-39	184 (48.1)	110 (59.8)	74 (40.2)	
40-49	84 (22)	37 (44)	47 (56)	
Marital status				0.000
Married	247 (65)	167 (67.6)	80 (32.4)	
Single	11 (3)	2 (18.2)	9 (81.8)	
Widow	56 (15)	15 (26.8)	41 (73.2)	
Divorced	60 (16)	23 (38.3)	37 (61.7)	
Separated	8 (2)	3 (37.5)	5 (62.5)	
Education				0.553
Attended education	246 (64.4)	138 (56.1)	108(43.9)	
No education	136 (35.4)	72 (52.9)	64 (47.1)	
Denomination				0.148
Catholic	113 (29.6)	58 (51.3)	55 (48.7)	
Protestants	179 (46.9)	109 (60.9)	70 (39.1)	
Islam	27 (7.1)	15 (55.6)	12 (44.4)	
Pentecostal	62 (16.2)	28 (45.2)	34 (54.8)	
Others	1 (0.3)	0	1 (100)	
Residence				0.048
Urban	136 (35.6)	85 (62.5)	51 (37.5)	
Rural	246 (64.4)	125 (50.8)	121(49.2)	
Tribe				0.759
Chewa	122(31.9)	64 (52.5)	58 (47.5)	
Ngoni	217 (56.8)	122 (56.2)	95 (43.8)	
Yao	27 (7.1)	16 (59.3)		
Tumbuka	3 (0.8)	1 (33.3)	2 (66.7)	
Lomwe	10 (2.6)	5 (50)	5 (50)	
Tonga	1 (0.3)	1 (100)	11 (40.7)	
Sena	1 (0.3)	0	1 (100)	
Other	1 (0.3)	1 (100)	0	
Family planning services				
Have knowledge of family planning providers				0.013
Yes	371 (97.1)	208 (56.1)	163 (43.9)	
No	11 (2.9)	2 (18.2)	9 (81.8)	
Access to FP at will				0.045
Yes	353 (92.4)	198 (56.1)	155 (43.9)	
No	18 (4.7)	10 (55.6)	8 (44.4)	
Place where one can get FP method				0.000
Family planning clinic	106 (27.7)			
ART clinic	64 (16.8)			
Banja la mtsogolo	25 (6.5)			
Other private clinics	15 (3.9)			
Told about other family planning methods				0.016
Yes	254 (66.5)	146 (57.5)	108 (42.5)	
No	128 (33.5)	0	128 (100)	
Parity when started using FP method				0.000

One child	-	47(22.4)	-	
More than one child	-	160 (76.2)	-	
Zero	-	3 (1.4)	-	
Knowledge of FP services at ART clinic				0.000
Yes	100 (26.2)	72 (72)	28 (28)	
No	273(73.8)	138 (50.5)	135 (49.5)	
ART clinic meeting family planning needs				0.000
Yes	58 (15.2)	57 (98.3)	1 (1.7)	
No	322 (84.3)	153 (47.5)	169 (52.5)	
Getting FP counseling at ART clinic				0.026
Yes	217 (56.8)	130 (59.9)	87 (40.1)	
No	165 (43.2)	80 (48.5)	85 (51.5)	
Visited by HSA for FP in past 12 months				0.121
Yes	39 (10.2)	26 (66.7)	13 (33.3)	
No	343 (89.8)	184 (53.6)	159 (46.4)	
Visited by CBDA for FP in past 12 months				0.011
Yes	47 (12.3)	34 (72.3)	13 (27.7)	
No	335 (87.7)	176 (52.5)	159 (47.5)	
Positive HIV status affected FP utilisation				0.000
Yes	121 (31.7)	83 (68.6)	38 (31.4)	
No	261 (68.3)	127 (48.7)	134 (51.3)	
Period on ART				0.787
Less than a year	122 (31.9)	64 (52.5)	58 (47.5)	
1-2 years	90 (23.6)	50 (55.6)	40 (44.4)	
More than 2 years	170 (44.5)	96 (56.5)	74 (43.5)	
Fertility factors				
Desire for children in the future				0.112
Yes	111(29.1)	54 (48.6)	57 (51.4)	
No	271(70.9)	156 (57.6)	115 (42.4)	
Ever delivered a baby				0.000
Yes	365 (95.5)	209 (57.1)	157 (42.9)	
No	17 (4.5)	1 (6.2)	15 (93.8)	
How many daughters				0.000
One	120 (31.4)	68 (56.7)	52 (43.3)	
More than one	205 (53.7)	128 (62.4)	77 (37.6)	
None	42 (11)	12 (28.6)	30 (71.4)	
How many daughters alive				0.000
One	129 (33.8)	74 (57.4)	55 (42.6)	
More than one	186 (48.7)	117 (62.9)	69 (37.1)	
None	10 (2.6)	5 (50)	5 (50)	
How many sons				0.004
One	136(35.6)	73 (53.7)	63 (46.3)	
More than one	180(47.1)	101 (56.1)	79 (43.9)	
None	51 (13.4)	34 (66.7)	17 (33.3)	
How many sons alive				0.685
One	135 (35.3)	74 (54.8)	61 (45.2)	
More than one	158 (41.4)	90 (57)	68 (43)	
None	23(6)	10 (43.5)	13 (56.5)	
Child with present partner				0.000
Yes	193 (50.5)	147 (76.2)	46 (23.8)	
No	60 (15.7)	27 (45)	33 (55)	
Number of children with present partner				0.000
One	41 ((10.7)	27 (67.5)	13 (32.5)	
More than one	154 (40.3)	120 (78.4)		
Social factors				
Discuss FP with partner				0.000
Yes	211 (55.2)	158 (74.9)	53 (25.1)	
No	41 (10.7)	16 (39)	25 (61)	

Encouraged by partner to utilise FP methods				0.000
Yes	198 (51.8)	153 (77.3)	45 (22.7)	
No	54 (14.1)	21 (38.9)	33 (61.1)	
Encouraged by peers to utilise FP methods				0.000
Yes	278 (72.8)	177 (63.7)	101 (36.3)	
No	104 (27.2)	33 (31.7)	71 (68.3)	
Encouraged by religion to utilise FP methods				0.028
Yes	202 (52.9)	122 (60.4)	80 (39.6)	
No	179 (46.9)	88 (49.2)	91 (50.8)	
Encouraged by culture to utilise FP methods				0.002
Yes	245 (64.1)	149 (60.8)	96 (39.2)	
No	137 (35.9)	61 (44.5)	76 (55.5)	
Access to media				
Reads news papers				0.539
Daily	6 (1.6)	5 (83.3)	1 (16.7)	
At least once a week	7 (1.8)	4 (57.1)	3 (42.9)	
Less than once a week	96(25.1)	54 (56.2)	42 (43.8)	
Not at all	273 (71.5)	147 (53.8)	126 (46.2)	
Listens to radio				0.021
Daily	215 (56.3)	130 (60.5)	85 (39.5)	
At least once a week	9 (2.4)	7 (77.8)	2 (22.2)	
Less than once a week	19 (5)	10 (52.6)	9 (47.4)	
Not at all	139 (36.4)	63 (45.3)	76 (54.7)	
Watches television				0.025
Daily	49 (12.8)	34 (69.4)	15 (30.6)	
At least once a week	5 (1.3)	4 (80)	1 (20)	
Less than once a week	6 (1.6)	1 (16.7)	5 (83.3)	
Not at all	322 (84.3)	17 1(53.1)	151 (46.9)	

Conclusion

In conclusion, these findings showed that just above half (55%) of the reproductive age (15-49 years) women on ART at Dedza district hospital ART clinic, were using family planning methods. Condoms were the most used method followed by an injectable hormone Depo-Provera. However, out of the respondents that reported using condoms, only 18% used it as a family planning method and below half reported using the condom consistently. The study found that a number of factors influenced utilisation of family planning methods among women on ART at Dedza district hospital ART clinic. Out of all the factors, parity was a significant predictor of family planning utilisation for these women. Most of the respondents preferred to get family planning methods from the ART clinic because this was where they got all their health care services.

CHAPTER 5

Discussion

Introduction

Utilisation of family planning methods is important for HIV positive women as it is for HIV negative women to space and limit births as well as to prevent unintended pregnancies irrespective of their fertility desires. In addition, World Health Organisation in the consolidated guidelines for the use of ARV drugs for treating and preventing HIV infections, stated avoidance of unintended pregnancies among HIV positive women as one way of reducing vertical HIV transmission and as a prevention strategy (WHO, 2013). This section discusses observations made from the results, their implications and relevance to the promotion of utilisation of family planning methods among women on ART. Additionally, it elaborates differences and similarities of the observations as found by other authors. The discussion is arranged according to the objectives.

Use of family planning methods among women on ART

In this study, knowledge of contraception was universal among the respondents. This is almost similar to the findings reported by National Statistical Office and ICF Macro (2011) in the Demographic and Health Survey 2010, which was at 99% for Dedza district and 98% at national level (NSO & ICF Macro, 2011). Studies conducted in Malawi, Kenya and Uganda found that awareness of family planning methods was high among respondents (Chipeta et al., 2010; Imbuki et al., 2010 & Makumbi et al, 2011). Conversely, a study in KwaZulu Natal in South Africa, reported that only 56% of the respondents knew about family planning methods.

Modern methods were widely known by women on ART (100%) at Dedza district hospital, than traditional (26%) and other methods (13%). This could be attributed to family planning counseling that the women got from the ART clinic at initiation of ART, because above half of the respondents reported that they got family planning counseling at the ART clinic. Similarly, at national level, NSO reported that 98% of women knew about modern methods; however, a good number of women also knew about traditional methods (74%) at national level (NSO, & ICF Macro, 2011). Although 100% of the respondents heard about methods of contraception, no respondent reported having knowledge of how those methods work. Despite the high knowledge level of contraceptive methods, just above half (55%) of the reproductive age women attending ART clinic at Dedza district hospital were utilising a family planning method. This implies that knowledge of family planning methods alone does not determine use of these services and that other factors influence decisions on whether or not to utilise family planning methods. These could be cognitive perceptual factors or modifying factors.

Findings also showed that current use of family planning among women on ART in Dedza district was higher than that of the general population in Malawi and Dedza district, which was at 46.1% and 45.5% respectively (NSO, & ICF Macro, 2011). One possible reason for this difference could be the difference in reference populations. The national statistics based the prevalence on data from the general population of married women, while this study based the prevalence on a sample of women on ART receiving routine family planning counseling at the ART clinic. Another possible reason for the high CPR in this study could be high condom use provided routinely at the clinic for prevention of HIV transmission and prevention of other STIs. Furthermore, cognitive

perceptual factors that women on ART had like importance of health, perceived control of health, perceived self-efficacy contributed to their utilisation of family planning as health promotion behaviour. These women had a conviction that they could successfully execute the required behavior (family planning utilisation) necessary to produce the required outcome, which was a healthy life for them.

These findings were almost similar to findings of a study in Blantyre where 55.2% of women on ART were using family planning methods (Daire, 2011). However, this figure is lower than that reported from Ethiopia, Uganda and Cambodia where 66.4%, 87.3% and 68.5% respectively were using FP methods (Sufa, et al., 2014; Egessa, 2010, & Nakaie et al., 2014). In contrary, the CPR from this study was higher than that reported in Lilongwe Malawi, rural Uganda, Southwestern Uganda and Tigray Ethiopia, which were at 36.5%, 14%, 27.8% and 46% respectively (Mbeye, 2007; Homsy et al., 2009; Muyindike et al., 2012 & Berhane et al., 2013).

Family planning methods utilized by women on ART

The fact that few respondents (27.6%) reported having a permanent family planning method, which is female sterilisation, showed that very few women on ART at Dedza district hospital wanted to limit childbirth. This was in line with findings of the same study that showed that among those respondents that were pregnant, a high proportion had a planned pregnancy. Although few women used the permanent family planning method to limit childbirth, 71% of the respondents had no desire for future children. The use of permanent family planning method was also very low at national level in Malawi (10%), 7.4% in Tororo Uganda, 18% in Southwest Ugandaand 13.3% in Kericho Kenya (NSO & ICF Macro, 2011; Egessa, 2010; Muyindike, 2012; Imbuki et al.,

2010). Contrary to these results, in Thailand and KwaZulu Natal in South Africa most women (75% and 85% respectively) preferred sterilisation (Landolt et al., 2012; Somera & Ross, 2012). A possible reason for low utilisation of sterilisation method could be the perceived side effects that women had with tubal ligation. Studies conducted in Congo and Iran found that women who had tubal ligation reported some somatic symptoms like painful menstruation and backache. In addition, they also reported some psychological problems such as the belief that health problems they were experiencing like abnormal uterine bleeding, decreased libido, pains during sexual intercourse were due to tubal ligation, and these led to marital quarrels (Lutala, Hugo, & Luhiriri, 2011; Moradan & Gorbani, 2012). Since interpersonal communication is a cue to family planning utilisation, it was possible that these women could discourage their friends to undergo female sterilisation.

Other respondents were using semi-permanent methods to space childbirth. Majority of these respondents were utilising male condoms followed by an injectable hormone, implants and pill. Condoms were the only contraceptive method consistently provided at the ART clinic and health care workers advised women on ART to use condoms for the prevention of HIV transmission. This could explain why a higher number of women reported condom use. These factors were consistent with studies conducted in Lilongwe Malawi, Nekemte Ethiopia, Tororo Uganda and Cambodia where most women preferred male condoms (Mbeye, 2007; Sufa et al., 2014; Egessa, 2010 & Nakaie, et al., 2014). In Kenya, women also reported that health care workers were providing condoms to all women receiving ART (McCarraher et al., 2008). However, at

national level in Malawi, male condom was the least used method at 2% and the most used method was the injectable hormone (NSO, & ICF Macro, 2011).

Out of those that used the condom, only 18% were using it as a family planning method while the rest were using it to prevent sexually transmitted infections including transmission of HIV. Although most women reported condom use, less than half of those used it consistently. This could be because of problems in condom availability. The Ministry of Health in Malawi reported that there were frequent stock outs of condoms at different locations throughout the country and accessibility was difficult especially in rural areas (MOH, 2012). Secondly, much as condoms are effective against transmission of STIs including HIV, use of condoms especially male condoms requires partner negotiation hence, women not on additional method of contraception could still be at risk of pregnancy. Contrary to these findings, women in Nekemte, Ethiopia and Thailand reported consistent condom use (Sufa et al., 2014; Landolt et al., 2012).

The injectable hormone was the second most used method probably because health workers provided it at the ART clinic. This was part of manaement of women on ART in line with the new guidelines of clinical management of HIV in children and adults (Ministry of Health, 2011). These guidelines promote Provider Initiated Family Planning (PIFP) where the health care workers should offer condoms and Depo-Provera (injectable hormone) to all women age 15 years and above (MOH, 2011). On the other hand, the other methods like pill and implants could be less utilised by women on ART because health workers followed the guidelines to advise the women that these contraceptives have drug interactions with ARVs. Using pills or implants concomitantly with ARVs

might make them less effective, while Depo-Provera has no relevant drug interactions with ARVs (MOH, 2011).

Apart from modern FP methods, the study found that very few women were using other methods like total abstinence and rhythm method. No respondent reported using traditional methods for family planning that include herbs. This result indicates that women preferred modern family planning methods probably because they were more effective than traditional methods. This was similar to the results that were obtained in the 2010 Malawi Demographic and Health Survey where the use of traditional family planning methods was also very low (NSO, & ICF Macro, 2011).

Unmet need for family planning

The results of this study indicated that there was a high rate of unmet need of family planning (42.4%) among women on ART at Dedza district hospital. Women with unmet need are those who do not desire any more births or those who wish to wait for at least two more years before next birth but are not on any method of contraception. These women are potential users of contraception and represent a missed opportunity (Orner, 2010). This category of women is at risk of unplanned pregnancies. Daire (2011) and Schwartz et al. (2012) reported unmet need for family planningin Blantyre, Malawi and South Africa where unmet need for family planning was at 22.6% and 28% respectively. Likewise in Uganda, Makumbi et al. (2011) found that the level of unmet need was high; about one third of the respondents did not want a child in the next two years but were not using condoms or any other modern contraceptive method for FP (Makumbi et al., 2011). In the facility based cross - sectional study by Daire (2011), the main reasons for unmet need were unwillingness of the spouse to use contraception, lack of access to FP methods

and fear of side effects. In addition, most respondents preferred integration of contraception provision to women on ART into the ART clinic (Daire, 2011).Similarly, Chipeta et al. (2010) in their study found that misinformation leading to fear of sideeffects, prolonged menstruation, genital sores, impotence and infertility, were among themany reasons for contraceptive non-use. Kamvazina (2007) in Mangochi, Malawi also found that unmet need for family planning was high at the time when women had only one child and the level of unmet need went down by the time the women conceived their last child. In addition, Grabbe et al. (2009) in Rwanda and Zambia found that PLWHA who were sensitive to their health status,exaggerated the fear of side effects of contraception. Like in these findings, women on ART at Dedza had perceived fears about family planning methods side effects; some reported that they heard rumours and misconceptions about family planning, which prevented them from utilising family planning methods. Health care workers need to provide proper counseling on family planning methods to these women inorder to avert these fears and promote their utilisation of family planning methods.

These findings reflect the current situation of family planning use among women on ART at Dedza district hospital and underscores efforts by MOH to address the unmet need for family planning to zero as one of the targets to promote PMTCT (MOH, 2012), in line with WHO's prong 2 of PMTCT (WHO, 2010a).

Out of those that used family planning methods, below half (49%) were utilising dual methods. Dual method use is the use of a barrier method like male and female condom concomitantly with another method. Although most respondents were not using dual method of contraception, the use of dual methods is recommended in HIV positive

women because the barrier method is very effective against HIV and other STI transmission but less effective method to prevent pregnancy in terms of contraceptive failure. A second method therefore would protect against pregnancy. Women who reported using hormonal contraceptives alone got protection against unplanned pregnancies since effectiveness of hormonal contraceptives is very high, more than 99% (Trussell, 2007). However, there was a risk of transmitting HIV to partners or getting other strains of HIV, as hormonal methods do not protect against HIV infections (Randrianasolo et al., 2008). Most studies conducted almost all over, also reported decreased dual methods utilisation. For example in Cambodia, 68.7% were using contraceptives but only 17.5% employed dual contraceptive method (Nakaie et al., 2014), similarly in South Africa 54% reported consistent condom use but only 15% used dual contraceptives (Schwartz et al., 2012). Women on ART require persistent counseling on use of dual methods and its importance. The MOH 2011 guidelines also promote dual protection for women on ART (MOH, 2011).

Factors influencing utilisation of family planning methods

FP use and background characteristics

This study showed that a larger population of the respondents was in the 30-39 age group followed by the 21-29 years age group. Family planning utilisation also followed the same trend where a larger proportion of 30-39 years old women utilized family planning methods followed by the 21-29 years old age group. It also showed that adolescents (< 20) were the least to utilise family planning methods. One probable reason for this could be that women in their thirties have delivered more than two children and parity of the respondents was a statistically significant predictor of family planning

utilisation for women on ART at Dedza district hospital ART clinic. Most of the respondents were likely to utilise family planning methods after delivering two or more children despite all the other factors. Increased number of children a woman had was also a significant factor in studies conducted in Uganda, Ethiopia and South Africa (Muyindike et al., 2012; Berhane et al., 2013 & Myer et al., 2007). The researchers found that women who had three or more children were more likely to utilise family planning methods than those that had only one child or none. A possible reason for this could be the belief people have that family planning methods caused subsequent infertility as reported in a study conducted in Malawi (Chipeta et al., 2010) therefore, women would want to deliver at least two children before they experience this infertility. This perceived control of health came about due to the perceived barrier to family planning utilisation.

Sixty-four percent (64%) of the study respondents had received some schooling of which 56% were utilising family planning methods. However, 53% of those that did not attend school also utilized family planning methods. This shows no significant difference in the utilisation of family planning methods between school attendees and those that did not attend school, and education did not show any relationship with utilisation of family planning methods at univariate analysis. These results were similar with results from Blantyre, Malawi where there was no statistical significance between family planning utilisation and education (Taulo et al., 2009). However, numerous studies in Africa have shown that low education levels lead to decreased contraception utilisation (Berhane et al., 2013; Makumbi et al., 2011; Muyindike et al., 2012; Myer et al., 2007). The association between education and family planning utilisation needs further studies because in this study, there did not appear to be a relationship between the two.

Denomination and tribe of the respondents also did not show any relationship with family planning utilisation although most Protestants used family planning methods than Catholics. Bisika, (2008) in his survey in Malawi found that women and families indicated interest in practicing FP, but reported some constraints from doing so such asresistance to modern methodsamong religious communities (Bisika, 2008).

However, marital status and residence showed significant relationship with family planning use. More married women used family planning methods than the unmarried did. This agrees with results from this study where some non-users of family planning said they were not using contraception because they were divorced, widowed or separated from their partners.

Although more married women were using family planning, they required to discuss it with their partners and get encouragement from them in order to utilise family planning methods. This study showed that among the married women, a large proportion of those that discussed family planning with their spouses, used contraceptives. A study conducted in Mangochi, Malawi also found that discussion of family planning between the women and their spouses was important to use of family planning methods and reduction of unmet need for family planning (Kamvazina, 2007). Encouragement from peers, culture and religion also contributed to utilisation of family planning methods. More respondents who reported that they got encouragement to use family planning from peers, their religion and their culture were utilising family planning. Women on ART also preferred getting family planning from the ART clinic because they said they got some encouragement from their peers and expert clients from the ART clinic. These findings suggested that interpersonal communication provided a better opportunity for women to

access and obtain family planning information and encouragement to utilise the contraceptives. In addition, number of children a respondent had with the present spouse, also contributed to family planning utilisation. A large proportion of women that had more than two children with their spouse were using family planning methods than those that had only one child or none. This provides a basis for promotion of male involvement and peer support in family planning.

In this study, more respondents were living in the rural area than the urban area. Although both urban and rural respondents had knowledge of family planning methods and providing centres, a large proportion that used family planning was from the urban area. This could be due to the respondents' level of education. Most respondents from the urban area had a secondary education compared to the rural respondents where most of them had only primary education. Although level of education had no significant relationship with family planning utilisation in this study, some studies showed that there was a relationship (Berhaneet al., 2013; Makumbi et al., 2011; Muyindike et al., 2012; Myer et al., 2007). Therefore, these results showed that those that had secondary education were more likely to utilise family planning methods than those with just primary education or none, agreeing with the findings from these studies.

In addition, access to family planning providing centres could also contribute to these findings. Respondents in this study reported that they got their family planning methods from the district hospital, Banja La Mtsogolo and other private clinics. All these centres are at the urban area (boma) of Dedza district, making it easier for the urban dwellers to access family planning services than their rural counterparts. However, those who leaved far from health facilities or near Catholic health facilities had problems

accessing FP services because the Catholic health facilities do not provide modern FP services.

The study also found that HSAs and CBDAs that provide outreach family planning services, did not reach a good number of the respondents, showing that there was poor outreach family planning services provision in the district that could be accessible to the rural dwellers. This could be due to inadequate numbers of community distributers of family planning methods. Bisika found the same results in a study conducted in Blantyre; there wasinaccessibility of FP methods, unsustainable community-based distributionof servicesandlimited access to services for rural populations (Bisika, 2008). Considering this problem, MOH scheduled trainings for community-based organisations utilising community volunteers including CBDAs to promote the up-take of family planning methods in the community among women on ART including all HIV positive mothers (MOH, 2012).

Another reason for higher utilisation of family planning by the urban compared to the rural respondents could be exposure to information through mass media, which act as cues to action. The study showed that most urban respondents were able to access newspapers; they listened to the radio and watched television where they could get information on family planning. However, the prominent source of information from mass media in the rural area was only the radio. A good proportion of respondents from the rural area reported that they listened to the radio than watching television and reading newspapers. Listening to the radio in the rural areas also depended on whether they possessed a radio or had butteries or not because there is no electricity in the rural area as

it is in the urban areas to power their radios. This shows that the urban respondents got family planning information from a variety of sources than the rural respondent.

Source of family planning services

Most of the women on ART that got their contraceptive methods from the district hospital got it from the family planning clinic than the ART clinic. Although above half of the respondents reported that they got family planning counseling from the ART clinic, they still went to the family planning clinic for their contraceptive methods. Most of the respondents reported that the ART clinic did not satisfy their family planning needs. One reason for this could be the provision of only condoms and the injectable hormone at the ART clinic. Therefore, for those that chose other methods, they had to go to the family planning clinic. Although the ART clinic was providing an injectable hormone for family planning, only 26.2% of the respondents knew about that service, most of them only knew about the condom provided for prevention of HIV transmission other than as a family planning method. Secondly, the health care providers at the ART clinic were not giving them information on other available contraceptive methods other than the condom and injectable hormone that they were providing. However, at the family planning clinic, providers were informing them about all available methods that they could choose from, side effects or problems they could experience with the method and what to do if they experienced the side effects. This information assisted them in coping with side effects and decreased unnecessary discontinuation of contraceptive methods.

Although most of the women were going to the family planning clinic for their contraceptive methods, they were generally unsatisfied with the unavailability of the

family planning services at the ART clinic. Almost all respondents preferred integrating family planning services into the ART clinic. The respondents wondered why they had to go to another clinic for family planning when they were getting all their health care services at the ART clinic. They reported that they would prefer to get all the family planning methods at the ART clinic because the health care providers at the ART clinic were respectful, friendly and they knew drug interactions of the contraceptive they chose with the ART drug they were on. In addition, there was privacy and confidentiality at the ART clinic than the family planning clinic. The respondents also said that they could get couple counseling on family planning, PMTCT counseling, expert counseling of clients as well as peer support at the ART clinic. Having one date for both ART and family planning could promote good follow-up and reduce defaulting from family planning utilisation. All these acted as cues to action of utilising family planning methods among women on ART. However, the women had perceived barriers to getting the health promotion behaviour, which is family planning utilisation at the family planning clinic. The main reasons for dissatisfaction were long waiting time due to colliding dates, and increased transport costs due to different appointment dates. The Ministry of Health in Malawi also noted this as a barrier to utilisation of family planning by women on ART (MOH, 2012).

However, a small proportion of the respondents preferred to get their contraception at the family planning clinic because all methods were available there and the providers provided proper counseling on the methods of their choice. Since the women perceived that only health workers at the family planning clinic had adequate knowledge on all family planning methods, MOH emphasised the need for pre and in-

service training for ART providers who will cover family planning services (MOH, 2012). Secondly, the respondents reported that they did not want to segregate themselves since this was where all women went for their family planning needs and that they would be shy to get their contraceptives at a clinic combined with men. These women employed the biologic characteristic of gender as a modifying factor to their utilisation of family planning. They also thought this arrangement eased work at the ART clinic, which was a situational factor.

The integration approach puts increased emphasis on Prong 2 of PMTCT, which is to reduce unmet family planning need to zero among all women through the integration of reproductive health/family planning services into the HTC/Pre-ART/ART/PMTCT program (MOH, 2012).

Much as integration of contraception into ART clinic was a preferred way of sourcing contraception for women on ART, it had its own challenges. Malawi provides family planning at all levels within the health system however; provision of these services is within the MNCH service delivery points or a completely different entity due to infrastructure challenges (MOH, 2012). This poses a challenge because women have to shift between departments to get services. As a result, clients are not willing to queue several times and are often lost in the process. Secondly, shortage of staff at the ART clinic would be another challenge. USAID reported that in Malawi, health service providers felt integration of family planning and ART increased their workload due to multiple tasks and compounded existing challenges of space for service provision(USAID, 2011). WHO recommends a staffing level of seven workers per 1,000 patients on ART, but according to MOH, Malawi is operating at a level of 3.54 staff per 1,000 ART patients (MOH, 2012). Unpublished statistics for 2014 indicated that Dedza district

hospital ART clinic has 4,000 registered clients on ART and about 2,000 on pre-ART care. There are only two nurses providing all the services to about 600 clients in a week, with a visiting clinician who comes only to review the sick. This staffing level can be a challenge to add family planning service provision to the clients attending the ART clinic. Therefore, there is need to augment the minimum health worker density to implement integrated implementation of family planning and ART. Similarly, in a study conducted in rural western Kenya (Nyansa Province), providers supported HIV and FP integration however, there were potential barriers identified including misunderstandings about contraceptive safety, gendered power differentials related to fertility decisions, staff shortages, lack of FP trainings and contraceptive shortages(Newmann et al., 2013b).

HIV positive status and family planning utilisation

This study has shown that although all the respondents were HIV positive, knowledge of HIV positive status affected some respondents than others in the utilisation of family planning methods. Among those that reported that HIV status affected their family planning utilisation, some were on a contraception method while others were not. Main reasons for those that used contraceptives were that they were afraid of MTCT, afraid of death and that both HIV and pregnancy lower immunity. This was similar to some studies that showed that an HIV positive diagnosis was associated with no desire for children in the future(Hoffman et al., 2008; Taulo et al., 2009; Imbuki et al., 2010). However, others did not use contraceptives even though their positive HIV status affected their family planning utilisation. This group reported that they did not want to be on a contraception method because they were afraid of family planning method side effects,

which would increase their risk of poor health, while some said because they did not have a live child.

On the other hand, some respondents said HIV status did not affect their family planning utilisation but they were using family planning methods because they had enough children, wanted healthy babies and some said because they had economic problems, which would prevent them from taking care of a big family. The other group of respondents that reported no effect of HIV status on their family planning utilisation but were not on a family planning method said they would be enrolled in the PMTCT program and still have healthy babies who will be HIV negative, while others said they did not utilise family planning because they were widows or divorced.

Limitations of the study

Limitation of this study was lack of generalisability of the study results and limited scope because they applied to one health institution only. However, the researcher still conducted this study at one institution only because it is a partial fulfillment of the requirements of the Master of Science degree in Community Health Nursing.

Another limitation was that data was self-reported and there was no verification with the family planning clinics therefore, it could not represent the actual behaviours and intentions of the women. Furthermore, the researcher collected the data through face-to-face interviews, which could lead to response bias. However, the researcher explained the purpose of the research properly to the respondents during the consenting process so that they understand why it was necessary to give correct answers to the questions.

Factors influencing contraceptive use collected were not exhaustive; there could be other influencing socioeconomic factors than those asked in this research study. However, the researcher included the main factors that could indirectly cover the other factors not covered in this study. More data could also be obtained in focus group discussions of both clients and providers.

CHAPTER 6

Conclusion and Recommendations

This chapter presents conclusions and recommendations based on the findings of the study.

Conclusion

In conclusion, the majority of women receiving ART at Dedza district hospital ART clinic reported knowledge of some method of contraception. However, there is generally lack of knowledge on how the contraceptives work leading to rumours and misconceptions. Condoms were the most frequently reported family planning method used, yet the condoms were not primarily utilised for family planning but prevention of HIV transmission and protection from other STIs. In addition, a large proportion of those that used the condoms were not using them persistently. Current use of modern contraceptives other than condoms was very low. Among the non-users of contraceptives, a large proportion did not desire to have children in future. This category of women had unmet need for family planning and was at risk of unplanned pregnancy. Parity of the respondents was a significant predictor of family planning utilisation among the study participants. Other factors that were more likely to be associated with family planning utilisation were marital status, residence, place where women got FP methods at the hospital, discussion of family planning with partner and number of children with partner. Most respondents preferred to get their contraceptive methods from the ART clinic; this could increase the contraceptive up-take for women on ART.

Recommendations

The recommendations are proposed to nursing practice, nursing management, nursing education and nursing research for improving use of family planning methods among women on ART. Based on the above, the researcher recommends the following:

To nursing practice

- The study has shown that health workers at the ART clinic only tell clients about condoms and injectable hormone as family planning methods because these are the methods they provide at the clinic. Therefore, Ministry of Health through the DHO must emphasise that nurses at the ART clinic should provide counselling on all available family planning methods to clients on ART at the ART clinic so that they should have a wide choice of the methods**.**
- Since most respondents leave in the rural areas and have problems accessing FPM, MOH through the DHO must promote community outreach provision of family planning methods through HSAs and CBDAs to make the services accessible to all communities.
- Community Nurses should work in collaboration with Civil Society Organisations
    - To promote the provision of youth friendly health services so that adolescents should get counseling on family planning and access family planning services without problems since this study indicated that adolescents were not accessing family planning services because they did not know where to get them.
    - To promote male involvement in issues of family planning since the study has shown that those women that discussed family planning with their

spouses and got encouragement from them had higher chances of utilising family planning methods.

To nursing management

- Community Health Nurse Managers should advocate for information, education and communication on FP messages through health education unit.There should be more family planning messages on radios since most respondents indicated that they listen to the radios, mainly the rural areas where there are more people.
- Nurse Managers through the DHMT should consider integrating ART and family planning clinics so that clients on ART should be getting family planning services at the ART clinic. This will promote client flow since they will be getting the family planning service at one place on the same date. In addition, it will help to reduce transport costs for the clients and promote couple participation since they will be coming together to the clinic.
- Nurse Managers should deploy enough staff to the ART clinic to minimize provider burden since the study found that there are only two nurses at the ART clinic.

To nursing education

- Training institutions should include'Clinical management of HIV in children and adults' in their pre-service curriculum. This will assist the student nurses to gain knowledge and skills in management of women on ART because it also outlines how to manage their reproductive needs that include family planning.

To nursing research

- More data on family planning utilisation among women on ART could be obtained in focus group discussions of both clients and providers since this was a quantitative research.

Areas for Further Research

- The study showed that most respondents were not utilising permanent family planning methods although they had more than two children and were above thirthy years old. There is need to conduct a research on factors contributing to low utilisation of permanent family planning methods.
- Most respondents preferred integration of FP services in the ART clinic. There is need to conduct a research on perspectives of health care providers regarding integration of family planning services into the ART clinic since this study did not ask the health care provider on this issue.

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Appendices

Appendix I (A): Participant Information Sheet (English Version): For Women above18 Years Old

UTILIZATION OF FAMILY PLANNING METHODS AMONG WOMEN ON ART IN DEDZA

Good morning /afternoon. My name is …….

We are conducting a study about "**Utilization of family planning methods among women onART in Dedza"** that has been approved by College of Medicine Research and Ethics Committee, and the District Health Officer has given permission to conduct this study at this hospital. We are asking clients at this clinic if they can participate. This study will recruit women of childbearing age from 15 to 49 years old.

I would like to explain to you the purpose, benefits, risks and my expectations from you if you decide to participate in the study, before you decide on whether to participate in the study or not. You are free to ask questions any time. When you have agreed to participate in the study, you will sign a consent form or make a mark, and those below 18 years will sign an assent form. This research is an academic requirement in partial fulfillment of the researcher's Master's Degree in Community Health Nursing.

You are asked to take part in this study because you are on antiretroviral therapy, and you are of reproductive potential (capable of becoming pregnant). You were selected randomly among all female clients that have attended the clinic today. All the names of female clients were extracted from the daily booking diary, and were recorded in a separate diary and given a number. These numbers were written on pieces of paper, were folded and mixed in a box, and then research assistants randomly picked 50% of the

papers from the box in order to have asample for the day. Your number was one of those picked and you are meeting the inclusion criteria. You are among 382 participants that might take part in this study.

Taking part in this study is voluntary. If you accept to participate in the study, I will ask you some questions about yourself, about reproduction, contraception and how you wish contraceptives should be provided for women on ART. The entire session will take about 30 minutes.

There is no known risk of participating in this study. However, in case some questions make you feel uncomfortable, you are free to express your discomfort or decide not to respond. If you choose not to participate or withdraw from the interview at any point, this choice will not affect the support given to you at this clinic in any way. There are no direct benefits to you for choosing to participate in this interview. However, information obtained in this study may help the government and stakeholders providing HIV and AIDS care to improve provision of contraception for people living with HIV and on ART**.**

I will do my best to ensure that your privacy and confidentiality is maintained, as your name will not be recorded, instead unique study identification numbers will be used, which cannot be linked to you**.** Iwill keep this information in a secure place and will only use it for purposes of this study. However, my study supervisor from Kamuzu College of Nursing will see the information. You will not pay anything for participating in the study similarly; you will not get any stipend or reimbursements for participating in this study.

At this time, do you want to ask me anything about the study? If you have any questions at any time even after the interview, feel free to ask. You can contact the researcher, **Mrs. Nancy Kamwendo on 0999601545 or 0884782287** or her supervisor **Dr. Mercy Pindani on 0888896970** in case you will need more information about the

study. You can also contact College of Medicine Research and Ethics Committee (COMREC), College of Medicine, Private Bag, 360, Chichiri, Blantyre 3 or phone at 01871911 or 01874377.

Appendix I (B): Participant Information Sheet (Chichewa Version): Ya amayi Oposera Zaka 18

UTILIZATION OF FAMILY PLANNING METHODS AMONG WOMEN ON ART IN DEDZA

Muli bwanji? Dzina langa ndi ……

Tikupanga kafukufuku wofuna kuona m'mene amayi amene ali pa ma ARV akugwiritsira ntchito njira za ku lera ku Dedza kuno. Kafukufukuyu wabvomerezedwa ndi bungwe lowona za kafukufuku la College of Medicine Research and Ethics Committee. Komanso dokotala wankulu pa chipatala pano anamuvomereza. Tikupempha anthu amene akubwera ku clinic ino kuti alowe nawo. Kafukufukuyu alemba amayi amsinkhu wobereka kuti alowe nawo.

Musanaganizire zotenga nawo mbali mukafukufukuyu, ndikufuna ndifotokoze cholinga,ubwino,zovuta komanso zimene ndikuyembekezera kwa inu mukavomereza kutenga nawo mbali mukafukufukuyu. Muli ndi ufulu ofunsa mafunso nthawi iliyonse. Mukavomereza kutenga nawo mbali mukafukufukuyu, mudzafunsidwa kusaina kapena kudinda pa chikalata cha chivomerezo. Kafukufukuyu akupangidwa ndi a Nancy Kamwendo, ophunzira ku Kamuzu Colege of Nursing ku Lilongwe ngati mbali imodzi yasukulu.

Ndikukupemphani kutenga nawo mbali mukafukufukuyu chifukwa muli pa mankhwala a ma ARV komanso muli pamsinkhu obereka (mutha kutenga mimba). Kutenga nawo mbali mu kafukufukuyu sikoumiriza. Ngati mungavomereze kutenga nawo mbali mu kafukufukuyu, ndidzakufunsani mafunso okhudza inu eni, okhudza njira zolera ndipo m'mene mukuganizira kuti njirazi ziziperekedwera kwa amayi omwe adapezeka ndi HIV omwe ali pa mankhwala a ARV. Mafunsowa mwina atenga mphindi makumi atatu (30).

Palibe zovuta zodziwika potenga nawo mbali mu kafukufukuyu. Komabe, ngati mafunso ena angakusowetseni mtendere, ndinu omasuka kunena ngakhale kusankha kusayankha mafunsowo. Ngati mungasankhe kusatenga nawo mbali mu kafukufukuyu ngakhale kusiya kuyankha mafunso mkati mwakafukufuku, chithandizo chomwe mumalandira pa chipatala pano sichidzakhudzidwa chifukwa cha izi. Palibe phindu lenileni kwa inu lomwe mungalipeze potenga nawo gawo mu kafukufukuyu, koma zomwe tidzapeze pa zotsatira za kafukufuku ameneyu, zitha kudzathandiza boma ngakhale mabungwe amene amagwira ntchito yothandiza anthu omwe ali ndi kachilombo ka HIV kuti asinthe maperekedwe a njira za kulera kwa amayi omwe anapezeka ndi HIV.

Ndidzayesetsa kuona kuti chinsisi chanu chasungidwa bwino potenga nawo mbali mukafukufukuyu chifukwa dzina lanu silidzalembedwa pali ponse, koma ndidzagwiritsa ntchito manambala kulemba pa mafomu amafunsowa amene sadzalumikizidwa ndi inu. Izi zidzasungidwa pa malo obisika ndipo zidzagwiritsidwa ntchito pakafukufuku yekhayu basi. Komabe, ondiyang'anira pa kafukufukuyu ku sukulu yathu ya Kamuzu College of Nursing adzaziwona. Simudzalipira chirichonse potenga nawo mbali mu kafukufukuyu, chonchonso, simudzalipidwa chirichonse potenga nawo mbali mukafukufukuyu.

Kufika apa, muli ndi funso lililonse lomwe mukufuna kundifunsa? Ngati mungakhale ndi mafunso nthawi ina iliyonse ngakhale nditatha kukufunsani mafunsowa, mudzakhale omasuka kufunsa. Mutha kudzaimba foni ya a **Nancy Kamwendo pa 0999601545 kapena 0884782287** ngati mungadzafune kudziwa zambiri kapenanso aphunzitsi a **Dr. Mercy Pindani pa0888896970**. Mukhozanso kufunsa ku College of Medicine Research and Ethics Committee (COMREC), College of Medicine, Private Bag 360, Chichiri, Blantyre 3 kapena kuimba foni ku 01871911 kapena 01874377.

Appendix II (A) Participant Information Sheet (English Version):For Guardians of Women 15-17 Years Old

UTILIZATION OF FAMILY PLANNING METHODS AMONG WOMEN ON ART IN DEDZA

Good morning /afternoon. My name is …….

We are conducting a study about "**Utilization of family planning methods among women onART in Dedza"** that has been approved by College of Medicine Research and Ethics Committee, and the District Health Officer has given permission to conduct this study at this hospital. We are asking clients at this clinic if they can participate. This study will recruit women of childbearing age from 15 to 49 years old.

I would like to explain to you the purpose, benefits, risks and my expectations from your client if you will accept that she participates in the study, before you decide on whether she should participate in the study or not. You are free to ask questions any time. When you have agreed that she should participate in the study, you will sign a consent form or make a mark on her behalf. After your consent, your client will be asked to assent to participate in the study. This research is an academic requirement in partial fulfillment of the researcher's Master's Degree in Community Health Nursing.

Your client will be asked to take part in this study because she is on antiretroviral therapy, and is of reproductive potential (capable of becoming pregnant). She was selected randomly among all female clients that have attended the clinic today. All the names of female clients were extracted from the daily booking diary, and were recorded in a separate diary and given a number. These numbers were written on pieces of paper, were folded and mixed in a box, and then research assistants randomly picked 50% of the papers from the box in order to have a sample for the day. Her number was one of those

picked and she is meeting the inclusion criteria. She is among 382 participants that might take part in this study.

Taking part in this study is voluntary. If you give consent and she assents to participate in the study, I will ask her some questions about herself, about reproduction, contraception, and how she wishes contraceptives should be provided for women on ART. The entire session will take about 30 minutes.

There is no known risk of participating in this study. However, in case some questions makes her feel uncomfortable, she will be free to express her discomfort or decide not to respond. If you choose not to consent or your client chooses not to participate or withdraw from the interview at any point, this choice will not affect the support given to her at this clinic in any way. There are no direct benefits to her for choosing to participate in this interview. However, information obtained in this study may help the government and stakeholders providing HIV and AIDS care to improve provision of contraception for people living with HIV and on ART**.**

I will do my best to ensure that her privacy and confidentiality is maintained, as her name will not be recorded, instead unique study identification numbers will be used, which cannot be linked to her**.** Iwill keep this information in a secure place and will only use it for purposes of this study. However, my study supervisor from Kamuzu College of Nursing will see the information. You will not pay anything for your client to participate in the study similarly; she will not get any stipend or reimbursements for participating in this study.

At this time, do you want to ask me anything about the study? If you have any questions at any time even after the interview, feel free to ask. You can contact the researcher, **Mrs. Nancy Kamwendo on 0999601545 or 0884782287** or her supervisor **Dr. Mercy Pindani on 0888896970** in case you will need more information about the

study. You can also contact College of Medicine Research and Ethics Committee (COMREC), College of Medicine, Private Bag, 360, Chichiri, Blantyre 3 or phone at 01871911 or 01874377.

Appendix II (B): Participant Information Sheet (Chichewa Version): Ya Amayi a Zaka 15 Mpaka 17

UTILIZATION OF FAMILY PLANNING METHODS AMONG WOMEN ON ART IN DEDZA

Muli bwanji? Dzina langa ndi ……

Tikupanga kafukufuku wofuna kuona m'mene amayi amene ali pa ma ARV akugwiritsira ntchito njira za ku lera ku Dedza kuno. Kafukufukuyu wabvomerezedwa ndi bungwe lowona za kafukufuku la College of Medicine Research and Ethics Committee. Komanso dokotala wankulu pa chipatala pano anamuvomereza. Tikupempha anthu amene akubwera ku clinic ino kuti alowe nawo. Kafukufukuyu alemba amayi amsinkhu wobereka kuti alowe nawo.

Musanaganizire zotenga nawo mbali mukafukufukuyu, ndikufuna ndifotokoze cholinga,ubwino,zovuta komanso zimene ndikuyembekezera kwa m'bale wanu mukavomereza kuti atenge nawo mbali mukafukufukuyu. Muli ndi ufulu ofunsa mafunso nthawi iliyonse. Mukavomereza kuti m'bale wanu atenge nawo mbali mukafukufukuyu, mudzafunsidwa kusaina kapena kudinda pa chikalata cha chivomerezo. Kafukufukuyu akupangidwa ndi a Nancy Kamwendo, ophunzira ku Kamuzu Colege of Nursing ku Lilongwe ngati mbali imodzi ya maphunziro awo.

Ndikukupemphani kuti m'bale wanu atenge nawo mbali mukafukufukuyu chifukwa ali pa mankhwala a ma ARV komanso ali pamsinkhu obereka (mutha kutenga mimba). Kutenga nawo mbali mu kafukufukuyu sikoumiriza. Ngati mungavomereze kuti atenge nawo mbali mu kafukufukuyu, ndidzamufunsa mafunso okhudza iye mwini, okhudza njira zolera ndipo m'mene akuganizira kuti njirazi ziziperekedwera kwa amayi omwe

adapezeka ndi HIV omwe ali pa mankhwala a ARV. Mafunsowa mwina atenga mphindi makumi atatu (30).

Palibe zovuta zodziwika potenga nawo mbali mu kafukufukuyu. Komabe, ngati mafunso ena angamusowetse mtendere, ndi omasuka kunena ngakhale kusankha kusayankha mafunsowo. Ngati mungasankhe kuti m'bale wanu asatenge nawo mbali mu kafukufukuyu, kapena mwini wake akakana; ngakhale kusiya kuyankha mafunso mkati mwakafukufuku, chithandizo chomwe amalandira pa chipatala pano sichidzakhudzidwa chifukwa cha izi. Palibe phindu lenileni kwa iye lomwe angalipeze potenga nawo gawo mu kafukufukuyu, koma zomwe tidzapeze pa zotsatira za kafukufuku ameneyu, zitha kudzathandiza boma ngakhale mabungwe amene amagwira ntchito yothandiza anthu omwe ali ndi kachilombo ka HIV kuti asinthe maperekedwe a njira za kulera kwa amayi omwe anapezeka ndi HIV.

Ndidzayesetsa kuona kuti chinsisi chake chasungidwa bwino potenga nawo mbali mukafukufukuyu chifukwa dzina lake silidzalembedwa pali ponse, koma ndidzagwiritsa ntchito manambala kulemba pa mafomu amafunsowa amene sadzalumikizidwa ndi iye. Izi zidzasungidwa pa malo obisika ndipo zidzagwiritsidwa ntchito pakafukufuku yekhayu basi. Komabe, ondiyang'anira pa kafukufukuyu ku sukulu yathu ya Kamuzu College of Nursing adzaziwona. Simudzalipira chirichonse kuti m'bale wanu atenge nawo mbali mu kafukufukuyu, chonchonso, sadzalipidwa chirichonse potenga nawo mbali mukafukufukuyu.

Kufika apa, muli ndi funso lililonse lomwe mukufuna kundifunsa? Ngati mungakhale ndi mafunso nthawi ina iliyonse ngakhale nditatha kumufunsa mafunsowa, mudzakhale omasuka kufunsa. Mutha kudzaimba foni ya a **Nancy Kamwendo pa 0999601545 kapena 0884782287** ngati mungadzafune kudziwa zambiri kapenanso aphunzitsi a **Dr. Mercy Pindani pa0888896970**. Mukhozanso kufunsa ku College of

Medicine Research and Ethics Committee (COMREC), College of Medicine, Private Bag 360, Chichiri, Blantyre 3 kapena kuimba foni ku 01871911 kapena 01874377.

Appendix III (A): Consent Form (English Version): For Women above 18 Years Old

The researcher has read and explained the participant information sheet to me, I have understood, and she has addressed my questions adequately. I therefore willingly agree to take part in the study.

Signature/Thumb print of the participant

_____

Date

_____

Names of Interviewer

_____

Signature

_____

Date

_____

Appendix III (B): Consent Form (Chichewa Version): Ya Amayi a Zaka Zoposera 18

Chikalata cha chidziwitsochi chafotokozedwa bwino kwa ine ndipo ndachinvetsetsa, mafunso anga onse ayankhidwa bwino. Choncho ndikuvomera mosakakamizidwa kutenga nawo mbali mu kafukufukuyu.

Saini ya wotenga nawo mbali _____

Deti _____

Dzina la wofunsa mafunso _____

Saini ya wofunsa mafunso _____

Deti _____

Appendix IV (A): Consent Form (English Version): For Guardians of Women 15-17 Years Old

The researcher has read and explained the participant information sheet to me, I have understood, and she has addressed my questions adequately. I therefore willingly agree that my client should take part in the study.

Signature/Thumb print for the guardian of a minor (below 18 years)

_____

Date _____

Names of Interviewer _____

Signature _____

Date _____

Appendix IV (B): Consent Form (Chichewa Version): Ya M'bale wa Amayi a Zaka 15 Mpaka 17

Chikalata cha chidziwitsochi chafotokozedwa bwino kwa ine ndipo ndachinvetsetsa, mafunso anga onse ayankhidwa bwino. Choncho ndikuvomera mosakakamizidwa kuti m'bale wanga atenge nawo mbali mu kafukufukuyu.

Saini ya wachibale wa wotenga nawo mbali wosakwana zaka 18

_____

Deti _____

Dzina la wofunsa mafunso _____

Saini ya wofunsa mafunso _____

Deti _____

Appendix V (A): Assent Form (English Version): For Women 15-17 Years Old

The researcher has read and explained the participant information sheet to me, I have understood, and she has addressed my questions adequately. My legal guardian has given consent for my participation in the study. I therefore willingly assent to take part in the study.

Signature/Thumb print for the minor (below 18 years)

_____

Date _____

Names of Interviewer _____

Signature

_____

Date _____

Appendix V (B): Assent Form (Chichewa Version): Ya Amayi a Zaka 15 Mpaka 17

Chikalata cha chidziwitsochi chafotokozedwa bwino kwa ine ndipo ndachinvetsetsa, mafunso anga onse ayankhidwa bwino. Amene amandiyang'anira avomereza kuti nditha kutenga nawo mbali mu kafukufukuyu. Choncho ndikuvomera mosakakamizidwa kutenga nawo mbali mu kafukufukuyu.

Saini ya wotenga nawo mbali wosakwana zaka 18

_____

Deti _____

Dzina la wofunsa mafunso _____

Saini ya wofunsa mafunso _____

Deti _____

Appendix VI: Interview Questionnaire (English Version)

UTILIZATION OF FAMILY PLANNING METHODS AMONG WOMEN ON ART IN DEDZA DISTRICT

Name of facility_____ Questionnaire number_____

Participant's ID No ……...….. Date of interview …../ …../ …….. (dd/mm/yyyy)

Name of interviewer

…….

PARTA. DEMOGRAPHIC DATA

1. How old are you?
    i. □ 15– 19
    ii. □ 20- 29
    iii. □ 30 – 39
    iv. □ 40 -49
2. Marital status
    i. □Married
    ii. □ Single
    iii. □ Widowed
    iv. □ Divorced
    v. □ Separated
3. Have you attended school?
    i. □ Yes

ii. □ No

4. If no go to question 6
5. If yes, what is the highest education you have?
    i. □ Primary
    ii. □ Secondary
    iii. □ Tertiary
6. What is your religion?
    i. □ Catholic
    ii. □ Protestant
    iii. □ Moslem
    iv. □ Pentecostal
    v. □ Other *(Specify)* ….....
7. Residence
    i. □ Urban
    ii. □ Peri-Urban
    iii. □Rural
8. What is your tribe?
    i. □ Chewa
    ii. □ Ngoni
    iii. □ Yao
    iv. □ Tumbuka
    v. □ Lomwe

vi. □ Tonga

vii. □ Sena

viii. □ Nkhonde

ix. □ Other (specify)…….

9. How long have you been on ART (months)

i. □ Less than one year

ii. □ One – two years

iii. □ Two years and above

PART B

Section 1: Contraception

Now I would like to ask you about family planning, the various ways or methods that a couple can use to delay or avoid pregnancy

10. Have you ever heard of any ways or methods of contraception?

i. □ Yes

ii. □ No

11. If no go to section 3

12. If yes, what ways or methods have you heard?

i. □ Female sterilisation

ii. □ Male sterilisation

iii. □ Pill

iv. □Intrauterine device

v. □ Injection

vi. □ Implants

vii. □ Male condom

viii. □ Female condom

ix. □ Rhythm or periodic abstinence

x. □ Withdrawal

xi. □ Emergency contraception

xii. □ Others (specify)……

13. Do you know how the method/methods you heard works?

i. □ Knows

ii. □ Doesn't know

iii. □ Other (Specify)……

Section 2: Current Utilization of FP methods

14. Do you know of a place where you can obtain a method of family planning?

i. □ Yes

ii. □ No

15. If no go to question 12

16. Where is that?

_____

_____

_____

_____

17. Do women have access to FP methods whenever they need them?

i. □ Yes

ii. □ No

18. Are you currently doing anything to delay or avoid pregnancy?

i. □ Yes

ii. □ No

19. If no go to question 20

20. If yes, what FP method are you utilising?

i. □ Pill

ii. □Intrauterine device

iii. □ Injection

iv. □ Implants

v. □ Male condom

vi. □ Female condom

vii. □ Rhythm or periodic abstinence

viii. □ Withdrawal

ix. □ Emergency contraception

x. □ Other (specify)……

21. Where did you obtain it from?

i. □ Public sector

ii. □ CHAM/Mission

iii. □ Private sector

iv. □ Others (Specify)

22. What is the primary reason for condom use? *(applies if participant uses condoms)*

i. □ FP

ii. □ Prevention of STIs

23. Do you use condoms consistently? *(For every sexual act)*

i. □Yes

ii. □No

24. How many children did you have when you started using the family planning method?

i. □ One

ii. □ More than one

25. Where in the hospital are the family planning services provided for women on ART?

i. □ ART clinic

ii. □ FP clinic

iii. □ Other

(specify)…….

.

26. Were you ever told by a health or family planning worker about other methods of family planning that you could use?

i. □Yes

ii. □No

27. Were you told about side effects or problems you might have with the method?

i. □Yes

ii. □No

28. If no, go to question 20

29. Were you told what to do if you experienced the problems?

i. □Yes

ii. □No

30. Does the ART clinic meet your needs for FP?

i. □Yes

ii. □No

31. Do you receive counseling for FP as part of the counseling that you receive at ART clinic?

i. □Yes

ii. □No

32. In the last 12 months, were you visited by a HSA or CBDA who talked to you about family planning?

i. □Yes

ii. □No

33. If not on any method, do you desire to use FP to avoid children in future?

i. □Yes

ii. □No

PART C: Factors influencing use of FP

Section 1: Reproduction

Now I would like to ask you about all the births you have had during your lifetime

34. Have you ever given birth?

i. □ Yes

ii. □ No

35. If no, go to question 40

36. If yes, How many daughters

i. □ One

ii. □ More than one

37. How many are alive

i. □ One

ii. □ More than one

38. How many sons

i. □ One

ii. □ More than one

39. How many are alive

i. □ One

ii. □ More than one

40. Do you desire to have children in future?

i. □Yes

ii. □No

41. Are you pregnant now

i. □ Yes

ii. □ No

iii. □ Not sure

42. If no go to section 3

43. If yes, how many months pregnant are you?

i. □ 1 - 3 months

ii. □ 4 – 6 months

iii. □ 7 – 9 months

44. At the time you became pregnant, did you want to become pregnant

i. □ Then?

ii. □ Later?

iii. □ Not at all?

Section 2: social/cultural factors

45. (If married) Do you have children with your current sexual partner?

i. □ Yes

ii. □No

46. If no child, go to question 48

47. If no sexual partner go to question 50

48. If yes, how many children

i. □ One

ii. □ More than one

49. Do you discuss FP use with your sexual partner?

i. □Yes

ii. □No

50. Does your spouse encourage you to utilise FP methods?

i. □ Yes

ii. □ No

51. Would peers encourage you in your use of FP methods?

i. □Yes

ii. □No

52. Does religion encourage you to use FP methods?

i. □ Yes

ii. □ No

53. Does your culture encourage you to use FP methods?

i. □Yes

ii. □No

54. Do HIV/AIDS affect your utilization of FP methods?

i. □Yes

ii. □No

55. Explain your response

above……..

56. If not using contraception are there any reasons for not using contraception?

_____

_____

_____-

_____

57. Do you read a newspaper

i. □ Almost everyday

ii. □ At least once a week

iii. □ Less than once a week

iv. □ Not at all

58. Do you listen to the radio?

i. □ Almost every day

ii. □ At least once a week

iii. □ Less than once a week

iv. □ Not at all

59. Do you watch television?

i. □ Almost every day

ii. □ At least once a week

iii. □ Less than once a week

iv. □ Not at all

60. Suggest ways in which utilization of FP methods among women on ART may be improved

……

……..

……

……..

Thank you for your responses

Appendix VII: Interview Questionnaire (Chichewa Version)

UTILIZATION OF FAMILY PLANNING METHODS AMONG WOMEN ON ART IN DEDZA DISTRICT

Dzina la chipatala_____ Questionnaire number_____

Nambala ya wotenga mbali ……...….. Deti …../ …../ ……..

Dzina la wofunsa

mafunso…….

PARTA. DEMOGRAPHIC DATA

1. Muli ndi zaka zingati?
    i. □ 15– 19
    ii. □ 20- 29
    iii. □ 30 – 39
    iv. □ 40 -49
2. Muli pa banja?
    i. □Wokwatiwa
    ii. □ Mbeta
    iii. □ Wamasiye
    iv. □ Linatha
    v. □ Anasiyana
3. Munapitapo kusukulu?
    i. □ Eya
    ii. □ Ayi
4. Ngati simunapite, pitani ku funso 6

5. Ngati munapita, munalekezera pati?
    i. □ Pulayimale
    ii. □ Sekondale
    iii. □ Kachenjede
6. Muli mu chipembedzo chiti?
    i. □Chikatolika
    ii. □ Champatuko
    iii. □ Chisilamu
    iv. □ Chipentekositi
    v. □ China (Fotokozani) ….....
7. Mumakhala kuti?
    i. □Kutauni
    ii. □ Kumudzi
8. Ndinu a mtundu wanji?
    i. □ Chewa
    ii. □ Ngoni
    iii. □ Yao
    iv. □ Tumbuka
    v. □ Lomwe
    vi. □ Tonga
    vii. □ Sena
    viii. □ Nkhonde
    ix. □Wina (Tchulani)…….

PART B

Kugwiritsa ntchito njira zolera

9. Kodi mumadziwa kumene mungapeze njira zolera?

    i. □ Eya

    ii. □ Ayi

10. Ngati ayi, pitani ku funso 12

11. Ngati mukudziwa, ndi kuti?

    _____

    _____

    _____

12. Kodi mumapeza njira zolera pamene mwazifuna?

    i. □ Eya

    ii. □ Ayi

13. Kodi mwachitapo chili chonse kuti mupewe kapena kuchedwetsa kutenga mimba?

    i. □ Eya

    ii. □ Ayi

14. Ngati ayi, pitani ku funso 20

15. Ngati eya, munagwiritsa ntchito chani?

    i. □ Kutseka kwa a amayi

    ii. □ Kutseka kwa a abambo

    iii. □ Mapiritsi

    iv. □ Lupu

v. □ Jakisoni

vi. □Noloplanti

vii. □ Mpira wa a bamboo

viii. □ Mpira wa a amayi

ix. □ Kusagonana masiku ena

x. □ Kutaila panja

xi. □ Zina (Tchulani)……

16. Njira yolera yomwe mukugwiritsa ntchito pano, munayipeza kuti?
17. Munauzidwapo za zobvuta zomwe mungakumane nazo pogwiritsa ntchito njira za kulerazi?
    i. □ Eya
    ii. □ Ayi
18. Ngati simunauzidwe, pitani ku funso 20
19. Ngati munauzidwa, anakuuzani zomwe mungachite ngati mutaona zobvutazi?
    i. □ Eya
    ii. □ Ayi
20. (Ngati amagwiritsa ntchito makondomu), kodi chifukwa cheni cheni chimene mumagwiritsira ntchito makondomu ndi chiani?
    i. □ Kulera
    ii. □ Kupewa matenda opatsirana pogonana
21. Kodi mumagwiritsa makondomu nthawi zones pogonana?
    i. □ Eya
    ii. □Ayi

22. Pamene mumayamba kutenga njira zolera, munali ndi ana angati?

    i. □ M'modzi

    ii. □ Kuposa m'modzi

23. Kodi kuchipatala kuno, njirazi zimapezeka kuti?

    i. □ART clinic

    ii. □ clinic ya kulera

    iii. □Kwina (longosolani) …….

24. Kodi ogwira ntchito kuchipatala, anakuuzanipo za njira zina zolera zomwe mukhoza kusankha?

    i.□ Eya

    ii.□ Ayi

25. Kodi kiliniki ya ma ARV, imakwaniritsa zofuna zanu za kulera?

    i. □Eya

    ii. □ Ayi

26. Kodi polandira uphungu ku kiliniki ya ma ARV, mumalandiranso uphungu wa kulera?

    i. □Eya

    ii. □ Ayi

27. Pa miyezi khumi ndi iwiri yapitayi, azaumoyo kapena otengera kulera khomo ndi khomo anakuyenderanipo kudzakambirana nanu za kulera?

    i. □ Eya

    ii. □ Ayi

28. Mukulingalira zokhala ndi ana mtsogolomo?

i. □Eya

ii. □Ayi

29. (Ngati sali pa njira yolera), Kodi Mukulingalira zogwiritsa ntchito njira zolera kuti mupewe kukhala ndi ana mtsogolomo?

i. □ Eya

ii. □Ayi

GAWO C: Factors influencing use of FP

Section 1: Uchembere

Tsopano ndikufuna ndikufunseni za uchembere wanu

30. Kodi munaberekapo?

i. □ Eya

ii. □ Ayi

31. Ngati ayi, pitani ku funso 36

32. Ngati munabereka, mwabereka ana aakazi angati?

i. □ M'modzi

ii. □ Kuposa m'modzi

33. Amoyo angati?

i. □ M'modzi

ii. □ Kuposa m'modzi

34. Ana a amuna angati?

i. □ M'modzi

ii. □ Kuposa m'modzi

35. Amoyo angati?

i. □ M’modzi

ii. □ Kuposa m’modzi

36. Kodi ndinu oyembekezera?

i. □ Eye

ii. □ Ayi

iii. □ Sindikudziwa

37. Ngati ayi, pitani gawo 2

38. Ngati ndinu oyembekezera, ndi miyezi ingati?

i. □ Mwezi umodzi - itatu

ii. □ Miyezi 4 – 6

iii. □ Miyezi 7 - 9

39. Pamene munatenga pakati, kodi munafuna kukhala ndi mimba?

i. □ Nthawi imeneyo?

ii. □ Nthawi ina mtsogolo?

iii. □ Simunafune?

Section 2: Kulera

Tsopano ndikufunsani za kulera, njira zomwe anthu amagwiritsa ntchito kuti apewe kapena asatenge msanga pakati.

40. Kodi munamvapo za njira zolera?

i. □ Eya

ii. □ Ayi

41. Ngati simunamvepo, pitani ku gawo 2

42. Ngati munamvapo, munamva njira ziti?

i. □ Kutseka kwa a amayi

ii. □ Kutseka kwa a abambo

iii. □ Mapiritsi

iv. □ Lupu

v. □ Jakisoni

vi. □Noloplanti

vii. □ Mpira wa a bamboo

viii. □ Mpira wa a amayi

ix. □ Kusagonana

x. □ Zina (Tchulani)……

43. Kodi mukudziwa m'mene njira zomwe munvazo zimagwilira ntchito?

i. □ Akudziwa

ii. □Sakudziwa

Section 3: Social/cultural factors

44. (Ngati ngokwatiwa) Amuna omwe muli nawowo, mwabereka nawo ana?

i. □ Eya

ii. □Ayi

45. Ngati ayi, pitani ku funso 48

46. Ngati mulibe mwamuna pitani ku funso 50

47. Ngati eya, ana angati?

i. □ M'modzi

ii. □ Kuposa m'modzi

48. Kodi mumakambirana za kulera ndi mzanu ogonana naye

i. □Eya

ii. □ Ayi

49. Kodi amuna anu amakulimbikitsani kugwiritsa ntchito njira zolera?

i. □ Eya

ii. □ Ayi

50. Nanga anzanu amakulimbikitsani kugwiritsa ntchito njira zolera?

i. □Eya

ii. □ Ayi

51. Nanga chipembedzo chanu chimakulimbikitsani kugwiritsa ntchito njira zolera?

i. □Eya

ii. □ Ayi

52. Chikhalidwe cha kwanu chimakulimbikitsani kugwiritsa ntchito njira zolera?

i. □Eya

ii. □Ayi

53. Kodi HIV ndi AIDS zinakhudza chiganizo chanu chogwiritsa ntchito njira zolera

i. □Eya

ii. □ Ayi

54. Longosolani yankho lanuli …….

55. Ngati simugwiritsa ntchito njira zolera, pali zifukwa zomwe simugwiritsira njirazi?

56. Kodi mumawerenga nyuzi pepala?

i. □ Tsiku lililonse

ii. □ Pafupifupi kamodzi pa sabata

iii. □ Osakwana kamodzi pa sabata

iv. □ Sindiwerenga

57. Kodi mumamvera wailesi?

i. □ Tsiku lililonse

ii. □ Pafupifupi kamodzi pa sabata

iii. □ Osakwana kamodzi pa sabata

iv. □ Sindimvera

58. Kodi mumaonera kanema?

i. □ Tsiku lililonse

ii. □ Pafupifupi kamodzi pa sabata

iii. □ Osakwana kamodzi pa sabata

iv. □ Sindionera

59. Mwamwa ma ARV nthawi yaitali bwanji?

i. □ Kuchepera chaka chimodzi

ii. □ Chaka chimodzi – ziwiri

iii. □ Kupyolera zaka ziwiri

60. Perekani maganizo anu pa m'mene mukuganizira kuti maperekedwe a njira zolera adzikhalira kwa anthu amene ali ndi kachilombo ka HIV.

……

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……

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ZIKOMO KWAMBIRI POYANKHA MAFUNSOWA

Appendix VIII: Permission to Conduct Study at Dedza District Hospital

TELEGRAM:
TELEPHONE: 01223522
FAX: 01223523

In reply please quote NO DC/MALAWI
THE DISTRICT HEALTH OFFICER,
DEDZA DISTRICT HOSPITAL,
P.O. BOX 136,
DEDZA,
MALAWI

26th June, 2015.

COMMUNICATIONS TO BE ADDRESSED TO:
THE DISTRICT HEALTH OFFICER

The Chairperson
COMREC
P/Bag 360
Chichiri
Blantyre 3

Dear Sir,

Ref: REQUEST TO CONDUCT A STUDY AT THE DISTRICT HOSPITAL

Refer to the aforementioned subject matter. Permission is hereby granted to Nancy Namijingo Kamwendo (KCN student) to conduct a study titled **'Utilisation of family planning methods among women on Anti Retroviral Therapy (ART) in Dedza'** at the District Hospital.

The research will help the district to understand family planning trends and prefrences among women on ART.

Yours faithfully

Hyasinta Kavalo
DISTRICT NURSING OFFICER

Appendix IX: COMREC Approval Certificate

CERTIFICATE OF ETHICS APPROVAL

This is to certify that the College of Medicine Research and Ethics Committee (COMREC) has reviewed and approved a study entitled:

P.06/14/1585 – Utilization of Family Methods among Clients on Antiretroviral Therapy in Dedza by Nancy Kamwendo

On 9th October 2014

As you proceed with the implementation of your study, we would like you to adhere to international ethical guidelines, national guidelines and all requirements by COMREC as indicated on the next page

Dr. V. Mwapasa- Chairperson (COMREC)

Approved by College of Medicine 09 OCT 2014 (COMREC) Research and Ethics Committee

09/10/2014
Date