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Special Studies Project: Influences in Fertility Decisions among HIV positive individuals in Lilongwe, Malawi & Barriers to Uptake and Continued use of Modern Contraceptive Methods among HIV positive individuals in Lilongwe, Malawi

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Special Studies Project: Influences in Fertility Decisions among HIV positive individuals in Lilongwe, Malawi & Barriers to Uptake and Continued use of Modern Contraceptive Methods among HIV positive individuals in Lilongwe, Malawi

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Abstract

Special Studies Project: Influences in Fertility Decisions among HIV positive individuals in Lilongwe, Malawi & Barriers to Uptake and Continued use of Modern Contraceptive Methods among HIV positive individuals in Lilongwe, Malawi

By Alexandra Hoagland

Background: HIV positive Malawians of reproductive age account for approximately 10.8% of the population. HIV positive individuals face challenges when whether to continue, limit or cease their fertility. Studies indicate Malawians are interested in modern contraceptive methods but uptake of methods remains low. This study looks to investigate the influenced in fertility decisions and barriers to uptake and continued use of modern contraceptives among HIV positive individuals living in Lilongwe, Malawi.

Methods: From May to July 2012, a reproductive knowledge, attitudes and practices study was conducted at two Lighthouse Trust clinics in Lilongwe, Malawi. All participants were HIV positive men and women enrolled in ART programs. Thirteen single sex focus group discussions and eight in-depth interviews were used for the purposes of this study. A secondary data analysis was conducted to barriers to uptake and continued use of modern contraceptive methods in the context of HIV.

Findings: The study population identified five key influences in their fertility decision process; partner fertility desire, concern of transmission of HIV, financial considerations, current number of children within the couple and influences outside the partnership such as friends and family. For HIV positive individuals interested in limiting or ceasing their fertility barriers to uptake and continued use of modern contraceptives prevent people from reaching their fertility goals. The study population identified four barriers to their uptake of modern contraceptive; misconceptions relating to contraceptive methods and their potential side effects, condom use, access to family planning services, and male influence on the uptake of contraceptives.

Discussion: Influences in fertility decisions and barriers to uptake and continued use of modern contraceptive methods identified in this study show the unique challenges facing HIV positive person in Lilongwe, Malawi. Although some of the findings were similar to influences and barriers facing HIV negative individuals in Malawi, they were augmented for HIV positive individuals.

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Special Studies Project: Influences in Fertility Decision Making among HIV Positive Individuals in Lilongwe, Malawi & Barriers to uptake and continued use of modern contraceptive methods among HIV positive individuals in Lilongwe, Malawi

Introduction:

A qualitative study exploring the impact od HIV and ART on reproductive knowledge, attitudes and practices in Lilongwe, Malawi, took place in the summer of 2012. A preliminary report was generated for the stakeholders in 2013; this report included high-level qualitative data analysis.

Dr. Karen Andes, Dr. Lisa Haddad and I met to discuss possible areas for further data analysis. Given the data limitations of the available data, we decided a special studies project to write two papers for publication was the best way forward for the project. The objective for this special studies project was to administer a secondary data analysis of the available qualitative data and identify two topics for further investigation. The two topics chosen for this special studies project *Influences in Fertility Decision Making among HIV Positive Individuals in Lilongwe, Malawi* and *Barriers to uptake and continued use of modern contraceptive methods among HIV positive individuals in Lilongwe, Malawi.* After completion of the special studies project these papers will be submitted for publication.

Background:

Since the identification of the first case of AIDS in 1985 care and treatment of HIV positive individuals has changed drastically [1]. In the early years of the disease many were being diagnosed during the later stages of the disease and no publically available treatment in Malawi [2]. In 2003 a grant from The Global Fund introduced

antiretroviral therapy treatment in 3 locations in Malawi [1]. As of June 2011 449 ART sites were set up throughout Malawi. Nearly 280,000 Malawians are currently enrolled in ART programs across the country [1]. Of the HIV positive persons enrolled in ART programs, 70% of patients adhere to the prescribed medication regimen, with studies indicating a range of 16% to 21% loss to follow up [1, 3]. The introduction of antiretroviral treatment changed not only the life expectancy for HIV positive individuals but increased their ability to live healthy lives. Currently, Malawi has an HIV prevalence rate of 10.8% among adults, accounting for 1.1 million Malawians.

Reproductive health issues are well documented in Sub-Saharan Africa. The four main areas in concern for women in Malawi is the total fertility rate (TFR), unintended pregnancies, unmet need for family planning and current contraceptive use. Malawi has not been immune to these issues. The current TFR for Malawi is at 5.7. Although TFR has decreased over the past 22 years, Malawi still ranks among the highest TFR in the world [4, 5]. The data indicates that only 55% of women report their pregnancies as planned. The remaining 45% of pregnancies in the previous 5 years, 19% of the pregnancies were considered mistimed and 26% were unwanted [5]. Studies suggest both men and women wish to limit their fertility, indicating potential issues with contraceptive uptake [6, 7].

For some women, an unmet need for family planning services results in low uptake and continued use of modern contraceptive methods. Approximately, 26% of Malawian women report an unmet need for family planning. Although knowledge of modern contraceptive methods is high for both men and women (98% can identify at least one modern contraceptive method), uptake does not reflect the indicated desire to

limit fertility [5, 8]. Women report using indicate oral contraceptives and injectable methods as their preferred method, however current use is low at 1.9% and 19.2% respectively. Additionally, these methods require adherence to a strict schedule optimal efficacy [9, 10]. Men report higher usage of condom use at 48%.

Reproductive health in the context of HIV adds a complex and changing dimension to an already challenging health landscape. During the early phases of the epidemic, HIV positive women were diagnosed during the later stages of the disease and which resulted in limited fertility [2, 11]. However, due to the wide spread HIV testing programs and introduction of antiretroviral ART programs, health outcomes improved greatly for HIV positive individuals [12, 13]. Additionally, prevention of mother to child transmission programs (PMTCT) have allowed HIV positive women to continue their fertility while limiting risk of transmission to their child [14]. Fertility rates among HIV positive women in the 1990s and early 2000s were considerably lower than HIV negative women, however recent studies suggest fertility rates of HIV positive and negative women are reaching similar levels [15, 16].

With the increased fertility among HIV positive individuals, investigation of the fertility desires and decisions is crucial to better understand this population. Studies indicate within a marriage, male fertility desires were highly influential in fertility outcomes [17, 18]. Family size and the desire for large families or sons influences some HIV positive individuals to continue fertility [19].

For HIV positive individuals wishing to limit their fertility uptake of contraceptive methods and continued use of their chosen method is instrumental to successful fertility control. Current contraceptive prevalence rate (CPR) in for Southern

Africa is 58% while Malawi is significantly lower at 33% CPR [5, 20]. Studies have indicated a range of issues relating to the uptake of modern contraceptive methods across Africa. One of the more common barriers is misinformation relating to available modern contraceptive methods, usually the sources of the misinformation is from peers or family members [21, 22]. One of the greatest concerns among women relating to modern contraceptive methods was the fear of infertility after use [23]. Some of these concerns can be mitigate through better family planning service provision, both in accessing services and information disseminated [24]. Studies show HIV positive individuals know of modern contraceptives methods is high but the uptake remains low [25]

Barriers to uptake in contraceptive methods extend beyond lack of understanding of available methods. Studies show male approval in the decision to utilize family planning services is a strong influence in uptake [26, 27]. However, this is not always the case for many since family planning programs are geared towards women [28].

Further research should further investigate the intersection of HIV, fertility goals and barriers to uptake of modern contraceptive methods. More specifically investigating a population enrolled in an ART therapy program help understand the changing landscape of fertility and HIV.

Study questions:

This study investigates two key research questions:

- What influences fertility decisions among HIV positive individuals in Lilongwe, Malawi?
- What do HIV positive Individuals identify as barriers to uptake and continued use of modern contraceptive methods in Lilongwe, Malawi?
-

Data Collection and Analysis:

Data collection took place in partnership with the Lighthouse Trust. The Lighthouse Trust operates in 2 clinics, Lighthouse Clinic and Martin Preuss Center in Lilongwe, Malawi. Both clinics offer HIV testing and counseling (HTC), antiretroviral therapy and clinical care (ART) and community home based care (CHBC). Lighthouse clinic offers comprehensive family planning services and MPC is situated directly adjacent to a government family planning clinic

In May of 2012 a qualitative study looking at the reproductive health knowledge, attitudes and practices of a population enrolled in an antiretroviral clinic at one of the two Lighthouse Trust sites. Focus groups and in depth interviews were deemed the best method to understand attitudes towards reproductive health. The focus group discussion guides were designed to cover a range of reproductive health topics including fertility goals, family size, knowledge of contraceptive options, access to family planning services, negotiating condom use, impact of ART on reproductive health. The goal was to understand how being HIV positive effected knowledge, attitudes and practices surrounding their reproductive health choices. The in depth interview guides covered similar domains but focused on individual fertility goals, family planning and how HIV influences their fertility decisions.

Data was collected at the 2 sites over the course of 2 months by a Malawian organization Research for Equity and Community Health (REACH Trust). Focus groups and in-depth interviews were recorded, translated and transcribed by REACH Trust. It was the intention of the study to conduct 10 focus groups and 10 in-depth interviews at each clinic (equally split between men and women). However due to technical issues

with recording and transcription, 13 focus groups and 8 in-depth interviews were available for this project. REACH Trust did a preliminary analysis of the qualitative data in MaxQDA, however this analysis lacked depth into key reproductive health issues.

REACH Trust provided a MAXqda file with the focus groups and select in depth interviews coded. They used 14 codes for all data and appeared to do a lot of blanket coding of sections that had loose associations with the code. After reviewing two to three coded focus groups, I choose to condense the codes into eight codes relating to fertility decisions and family planning (many of the codes applied to both themes). An example of condensing codes; REACH Trust used the codes HIV/ART and Reproductive Health, HIV/ART influence on Reproductive Health and HIV transmission and pregnancy. All three of those codes were similar and none of the codes had definitions associated with them. Therefore I condensed the code to Health Concerns, which incorporated HIV influences on reproductive health, transmission, pregnancy, as well as side effects. I went back through the data and cleaned the coding done by REACH trust and attempted to be more precise with the sections I coded. Through this process I was able to identify a two transcribed focus groups that were duplicates.

The coding done by REACH Trust was very liberal and used for the purposes of the final report they produced. To properly assess the data for the two areas of focus for the purposes of this special studies project, the codebook and coding had to be tweaked and recoded. I chose to use eight codes that highlighted key themes relating to barriers to uptake and continued use of modern contraceptive methods and influences in fertility decisions among HIV positive individuals. In many sections of the REACH Trust MAX file it was easier to remove their codes and recode using the newer abbreviated codebook.

Codes were developed using inductive and deductive methods (codebook and definitions used in Table 1):

Table 1: Codebook, codes and definitions	
Code	**Definition**
Influences outside the marriage	Mention of family or peers pressuring continued fertility. Can also be perceived pressure or envy of others fertility
Partner Decision	Partner influence on fertility or family planning decisions. Can be actual or perceived pressure. Can also apply to future partners and their perceived desires.
Financial	Financial influences to fertility decisions accessing family planning. May include mention of food or other resource limitations as a result of additional children
Myths/Misconceptions	Myths and misconceptions regarding modern contraceptive methods. Includes discussion of side effects of methods
Family Planning	Mention of family planning methods, use of methods (excludes side effects or misconceptions as that would fall under the prevue of other codes)
HIV/ART Influence	HIV/ART influencing fertility or family planning decisions.
Access	Accessing information on fertility or family planning services. This includes perceived barriers to access. Financial issues relating to access of modern contraceptives included
Condom Use	Condom use as a dual method, knowledge of importance of use. Also includes continued condom use and negotiating condom use within a partnership

After the data was cleaned and recoded according to the codebook analysis using MAXqda was performed. Each code was activated individually to identify nuances within each code. Excerpts were sorted into dimensions within each theme in each paper. Many of the codes covered issues in both the influences in fertility decisions and barriers to uptake in modern contraceptive papers. Patterns immerged relating to positive and negative factors influencing both study questions through the analysis.

Findings:

Influences in fertility decisions among HIV positive individuals are varied and complex. Focus groups and in depth interviews illuminated five key areas impacting fertility decisions for HIV positive individuals. Partner influence, more specifically male fertility desires, was one of the strongest influences for men and women participating in the discussions. For many, health concerns for negative partners, HIV positive mothers and unborn children were key factors for those choosing to limit or cease fertility. The current financial situation of HIV positive individuals served as a deterrent to continue fertility for many men and women. Current number of children among a couple was a strong indicator as to whether fertility would continue. Many couples indicated ceasing fertility was more likely if a couple was satisfied with their number of children pre HIV positive diagnosis. External influences, such as family and friends, also impacted the fertility decisions for HIV positive individuals. These external influences were stronger when disclosure of HIV positive status had not occurred. All of these influences effected fertility desires and decisions in different ways.

For HIV positive individuals interested in limiting or ceasing their fertility barriers to uptake and continued use of modern contraceptives prevent people from

reaching their fertility goals. Misconceptions relating to contraceptive methods and their potential side effects deterred many from seeking out family planning methods. Side effects in modern contraceptive methods were an especially strong deterrent for those on ART medications. Condom use was universally accepted as the only way to prevent transmission but mistrust in the efficacy, as a family planning method was apparent for many. Additionally, continued condom use was a challenge for many as they reported user fatigue with the method. Access to family planning services was a perceived barrier for men and women, the study population was enrolled in ART programs at or near facilities with family planning services available. Male influence on the uptake of contraceptives was a strong barrier as many men knew of available methods but did not understand their functionality. Men also believed that women would be more inclined to engage in promiscuous sexual behavior if contraceptive methods were used.

Discussion:

As a result of this study we were able to identify key influences on fertility decisions for HIV positive individuals in Lilongwe, Malawi. The five key influences identified by the study population were partner fertility desire, concern of transmission of HIV, financial considerations, current number of children within the couple and influences outside the partnership such as friends and family. The findings show areas of potential intervention for this study population. Health education for HIV positive individuals, including fertility recommendations and providing tools for fertility discussion within the context of their relationship, For those HIV positive individuals choosing to continue their fertility, health facilities need to provide easily accessible resources on prevention of transmission to negative partners and to children.

Additionally, providing information to the larger population on the benefits of limiting fertility could have an impact on the fertility decisions of the HIV positive population.

In investigating the barriers to uptake and continued use of modern contraceptive methods among HIV positive individuals in Lilongwe, Malawi, we were able to identify four key themes impacting contraceptive use. The four main themes expressed by the study population were misconceptions and side effects of modern contraceptive methods, condom use, accessing family planning methods and male influences on contraceptive uptake. These four identified themes illuminate possible areas of intervention to address the perceived barriers to uptake of modern contraceptive methods among HIV positive individuals. Promotion of contraceptive methods and provision of accurate contraception information from trusted sources in the community is key to beliefs in method efficacy and use. Uptake of condom use was not a central concern for this study population but the continued use posed a challenge. Encouragement of continued use and reminders of the benefits of condom use for the study population could improve continued use. Additionally, for those using condoms as the sole form of contraception should be counseled on the benefits of dual method use. Provision of family planning services at locations with perceived ease of access as well as promoting family planning services for both men and women could result in higher uptake within the HIV positive population in Lilongwe, Malawi.

Student Involvement:

The duration of the study I was responsible for the literature review, data analysis, drafting and finalizing the 2 papers for publication. Dr. Lisa Haddad and Dr. Karen Andes provided feedback on drafts and guidance throughout the study.

The process of this special studies project was quite challenging, secondary data analysis with qualitative data was a steep learning curve for me, as this was my first exposure to qualitative data analysis outside of a classroom setting. The primary purpose of the study was to assess reproductive health knowledge, attitudes and practices. Due to the broad goal of the survey there were areas in the data that further probing could have resulted in richer data. I personally found it challenging to see many "missed opportunities" in focus group discussions to delve deeper into reproductive health issues. This project also emphasized the benefits of taking part in data tool development as well as the data collection process.

Before this special studies project I have never had experience writing a manuscript. The whole process was a learning experience from start to finish of both papers. Writing was a very iterative process for me, revisiting and revising sections. The writing process also highlighted what areas of the manuscripts I felt most confident writing (methods and findings) and where I struggle (discussion). At the end of this process I feel I have learned a tremendous amount about qualitative research, manuscript writing and my own strengths and limitations as a public health practitioner.

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Influences in Fertility Decisions among HIV positive persons in Lilongwe, Malawi

Abstract:

Background: Approximately 1.1 millions Malawians are HIV positive and account for 10.8% of the population of reproductive age. HIV positive individuals face challenges when whether to continue, limit or cease their fertility.

Methods: From May to July 2012, a reproductive knowledge, attitudes and practices study was conducted at two Lighthouse Trust clinics in Lilongwe, Malawi. All participants were HIV positive men and women enrolled in ART programs. Thirteen single sex focus group discussions and eight in-depth interviews were used for the purposes of this study. A secondary data analysis was conducted to identify influences on fertility decisions among HIV positive individuals in Lilongwe, Malawi.

Findings: The study population identified five key influences in their fertility decision process; partner fertility desire, concern of transmission of HIV, financial considerations, current number of children within the couple and influences outside the partnership such as friends and family. Concern for transmission and financial considerations were the two themes solely associated with limiting or ceasing fertility. Partner fertility desires and influences outside the marriage were most associated with strongly influencing continuing fertility. Number of children within a partnership influenced both ceasing and continuing fertility.

Discussion: This study identified influences in fertility decisions for HIV positive individuals in Lilongwe, Malawi. Although some influences were not unique to the HIV positive population, influences were amplified within the context of HIV.

Introduction:

Total fertility rate for Malawi has decreased from 6.7 in 1992 to 5.7 in 2010. This decrease coincides with an increase in knowledge of contraceptives to over 97% and a contraceptive prevalence rate of 46% [1, 2]. One third of Malawian men and women indicate a desire to limit childbearing and 47% of women and 42% of men want to cease fertility altogether [2].

There are approximately 1.1 million people living with HIV in Malawi. According to recent data, the prevalence among ages 15-49 is 10.8% [3]. In the 1990s, HIV testing was not widespread and many HIV positive patients were diagnosed in the later stages of the disease, thus due to health considerations they chose to not continue bearing children [4]. In the early stages of the HIV epidemic in Malawi, researchers concluded that health complications coupled with behavioral influences resulted in lower or limited fertility among HIV positive women [5].

In recent years with the increased availability of HIV testing and access to antiretroviral treatment (ART), the context for these results has changed in a short period of time [6, 7]. Patients who are HIV positive and adhering to ART can have longer life expectancies, even in middle- and low-income settings [8]. The availability of programs reducing mother to child transmission and ART increases the opportunity to have a healthy, HIV negative child [9]. Studies indicate that in low resource settings, HIV positive women are now returning to fertility rates similar to HIV negative women [10].

Even with the recommendation to cease fertility, HIV positive individuals choose to continue their fertility after diagnosis [11].

Discussions of fertility within marriage or a relationship can be challenging in cultures where the value of a man is reflected in how many children he fathers and a women's identity is defined by her fertility [12, 13]. For HIV positive persons, fertility decisions change the scope of health considerations.

This study looks to explore the complex dynamics of fertility decisions among HIV positive persons in Lilongwe, Malawi. The primary goal of the research was to assess the reproductive health knowledge, attitudes and practices among HIV positive persons in regards to their family planning options.

Methods:

This is a unique study as all the participants were HIV positive and enrolled in ART programs; all participants had been receiving health messaging through the study clinics. Qualitative methods were used to assess current knowledge and identify the gaps in knowledge in 2 clinics in the Lilongwe District of Malawi operated by the Lighthouse Trust, Lighthouse Clinic and Martin Preuss Center.

The study ran from May 2012 through July 2012. The Malawian organization, Research for Equity and Community Health Trust (REACH Trust) conducted the focus groups and in depth interviews at both clinics. A convenience sample of clients was recruited for participation at these clinics, with 6-8 participants per focus group. Trained Malawian qualitative facilitators conducted the focus groups and in depth interviews in the local language of Chichewa. The focus groups and in-depth interviews covered

domains including discussions of living with HIV, concerns about transmission (vertical and horizontal transmission), fertility goals and family planning.

Nineteen focus groups were conducted; one hundred and sixteen persons participated in the focus groups (56 males and 60 females) and 20 participated in the in-depth interviews (10 males and 10 females, equally divided between the 2 clinics). Due to technical limitations 13 focus groups and 8 in depth interviews were available for the purposes of the study (see table 1 and 2).

Table 1: Participants in Focus Group Discussion			
	Male	Female	Total
Martin Preuss Center (# of groups	31 (5)	18 (3)	49
Lighthouse (# of groups)	18 (3)	12 (2)	30
Total	49	30	79

Table 2: Participants in In-Depth Interviews			
	Male	Female	Total
Martin Preuss Center	2	0	2
Lighthouse	4	2	6
Total	6	2	8

Focus groups and in depth interviews were translated and transcribed into English. Translations were reviewed to ensure accuracy and any verbiage in Chichewa that did not have an English translation was left in Chichewa. Upon completion of translation and transcription, all focus group files were uploaded into MAXqda version 10 (Verbi GMBH, Berlin) for analysis.

REACH Trust completed an initial coding of the data for general reproductive health themes. After review of the codes it was determined that a new codebook was

needed for the purposes of this study. The primary researcher for this study recoded data relating to issues directly pertaining to influences in fertility decisions. Codes were developed using inductive and deductive methods. Coded segments were then pulled by theme and further investigations of patterns and variations within each theme. After analysis of the codes, five themes were identified as influences for men and women in deciding their fertility. For the purposes of this paper the focus groups were primarily used as the source of data, the in depth interviews were used for corroboration of findings from the focus group discussions.

Findings:

Independent of HIV status, fertility decisions among couples are complex. Participants in the focus groups and in depth interviews spoke of the complex factors that influence their decisions relating to fertility. Both men and women discussed how their fertility decisions differed from those made by HIV negative persons. Across sites and sexes, five themes emerged as central factors influencing their fertility decisions: partner influence, health concerns, financial concerns, current number of children and influences outside of the relationship.

Partner Influence:

One of the most consistent influences in fertility decisions was the man in the relationship. Men and women indicated that it was primarily the current or future male partner's desires for children that would be a strong influence on their decision to continue to have children or use of contraception. Both men and women said that conversations about fertility occur between a man and woman, however the fertility desires of the man outweighed that of the woman.

"…and what also happens is that a woman can decide to have children for her partner if the man tells you to say if you don't want to bear me a child, then I will go out to someone else who will give me a child. So for you meet his desire you bear him a child" – Female, focus group discussion, Martin Preuss Center Clinic

"He says 'if you won't be pregnant this month I will leave you, people are not respecting me outside'." – Male, focus group discussion, Martin Preuss Center Clinic

Similarly, men in the focus groups stated that a man would go so far as to end the marriage if his wife refused to bear any additional children. These factors strongly impacted the fertility conversation.

"When there is a decision in the house that we should have children mostly it is the man who plays a greater role in making that decision. I have seen many families breaking because the man wants a woman who can have children." – Male, focus group discussion, Martin Preuss Center Clinic

Similar to the challenges of current partner influences on fertility decisions, many spoke about second marriages or new relationships with spouses or partners who have not conceived children. Concern was raised around producing children from both men and women.

"So despite having this problem of HIV that second wife might demand that she wants a child as it is a new marriage, when you try to refuse and

tell her that you should just be supporting one another." – Male, focus group discussion, Lighthouse clinic

Many women discussed the decision to continue their fertility after becoming HIV positive. Female participants stated their fertility desires were impacted strongly by their peers. The envy they felt when seeing other women bearing children was a strong enough force to continue to bear children.

"but it is the woman who makes that decision because she admires children for other people looking at how children are dressing nowadays, they look good so you go to your partner and say I have decided that we should stop using condoms, I want to have a child" – Female, focus group discussion, Martin Preuss Center clinic

Women reported being aware of medical complications and the importance of adhering to ART to lower their likelihood of mother-to-child transmission. For HIV positive couples who were considering having additional children, participants noted that it was important to incorporate health professionals in their decision making process.

"That decision can be made unless there are no children in the house or else if children are there, still other men who would want to continue having children and in that case you will have to discuss with your husband and when you discuss you need to go to the hospital again together to meet the doctor and tell him that we have made a decision to

have children and they give you procedures to follow, that's what I heard." – Female, focus group discussion, Martin Preuss Center Clinic

Joint discussions on fertility desires appeared to be relatively uncommon however; only select male and female focus group participants mentioned that in some relationships fertility goals and planning is discussed together. A few participants indicated consulting the health facility because of their HIV status but the majority spoke solely of their partner's desires.

Concerns about Transmission:

Men and women in the study voiced three main health concerns. Transmitting to a child was the greatest concern for all participants when discussing HIV specific health considerations in fertility decisions. Transmission to an HIV negative partner was also a great concern for participants in sero-discordant relationships. Lastly, the health of an HIV positive mother and her ability to remain healthy for the duration of the pregnancy concerned many participants.

The risk of HIV transmission to a child was one of the greatest concerns and seemed to have the strongest impact on limiting or ceasing fertility.

"If you're HIV positive it's not good to get pregnant because a child can be born with the virus. Hence the child will be sick and sick again, this will in turn bring more worries to the mother an the mother's health will not be good because of worries." - Female, focus group discussion, Lighthouse Clinic

> *"When I and my husband were diagnosed with HIV, we have four children .... He said the children we have now are enough because if I continue having children we will end up having an HIV child and it won't be that good for us to be on treatment together with the child." – Female, focus group discussion, Lighthouse clinic*

Women and men understood the extra precautions required to decrease the likelihood of mother to child transmission during pregnancy and birth. They also understood the positive impact ARTs had on reducing the risk of transmission from mother to child.

Men and women in a sero-discordant relationship expressed concern about the challenge of disclosing their status to their partners. They also noted that if the couple decides to continue bearing children, there was concern about transmitting HIV to the negative partner.

> "*Sometimes it happens that you are HIV positive and your husband is negative…if you happened to be pregnant…they caution the man that him too will be HIV positive" Female, focus group discussion, Martin Preuss Center Clinic*

Participants who were not currently in a relationship said they were concerned about transmitting to their future negative partners.

Men and women indicated they were told that it is recommended that HIV positive persons limit their fertility due to their health status. However, those choosing to continue bearing children discussed involving the hospital or health center to guide them through the process.

"*She may wish to heave one or two children so it is possible to discuss with your husband and you can go to the hospital and they can advise how we can have a child although we are HIV positive" – Female, focus group discussion, Lighthouse Clinic*

Financial Factors:

Both males and females said that finances should be considered when deciding to have additional children. In all focus groups discussions, there was concern expressed in their ability to provide for their current children and possible future children. As HIV positive individuals or couples, men and women indicated that maintaining a healthy life costs would increase. Considerations of a couple's current and future financial status were discussed especially in the context of being HIV positive.

"you are supposed to reduce the number of children that you want to have depending on the condition of your life" – Female, focus group discussion, Martin Preuss Center Clinic

Men and woman discussed the belief that HIV positive individuals had shorter lifespans, which had further financial implications for their children.

Men believed that it was their responsibility to consider the financial situation of the family, and therefore focused primarily on the financial constraints impacting their fertility decisions.

"yes the difference is that a man only thinks whether he will be able to support the child when it is born while a woman would think to say if am pregnant that will cause my immunity to be low but a man do not think of

the immunity you only think of the child to be born." – Male, focus group discussion, Martin Preuss CenterClinic

Financial status concerned women as well, however it was considered in conjunction with health status and the wellbeing of other children.

"There are other things like the responsibility; when you have children you have more responsibilities. If you have one child, and then add another one, the responsibility increases as well." – Female, focus group discussion, Martin Preuss Center clinic

Women discussed the responsibility in terms of finances and time dedicated to raising their children. Women spoke of the holistic effect an additional child would have on the health of their family, including effects on other children, as well as the financial considerations.

"we are people and we have many problems. Apart from HIV, if you have no food that is also a problem; if children are disturbing your mind, each one of them is doing whatever she/he wants, that also gives you problems adding on the disease that you have, you keep on being affected" – Female, focus group discussion, Martin Preuss Center clinic

Current number of children:

Across focus groups and in depth interviews, participants agreed that the current number of children in a family would directly impact fertility decisions. Men and women believed that an HIV positive person or couple who had children before being diagnosed would be more likely to limit or cease fertility. Many spoke of their current situations,

their children and HIV status in their personal decision-making process about whether to continue bearing children. While the decision to cease fertility was said to be easier for married couples with children, participants noted that where one or both partners had children from previous relationships, there was a need for further discussion about fertility in a new relationship. Participants in childless relationships indicated that the desire for children outweighed the health risks relating to their HIV status.

For couples that had children prior to knowing their HIV positive status, the decision to limit having children seemed to be an obvious choice for many.

> *"From what I think I feel if you are HIV positive and you have one or two children, it is better not to continue having children because if the doctor encourages us to be using condoms it is obvious that they prevent us from having other children" – Female, focus group discussion, Lighthouse Clinic*

Participants suggested that having a certain number of children prior to HIV positive diagnosis would allow a couple to more easily decide to cease fertility. However, they were not able to specify a minimum number of children that would allow a couple to limit childbearing. It was nearly universally accepted that a couple where one or both partners were HIV positive should cease fertility.

The struggle between health limitations and partner desires was challenging, the partner's desire for children overshadowed health concerns.

> *"Sometimes it's the decision of that you make in your house when there is no single child so you decide to have a child"- Female, focus group discussion, Lighthouse Clinic*

From the conversations in the focus group discussions, HIV status appeared to be a secondary concern to being childless. Both men and women said they found a sense of identity from childbearing. Therefore in partnerships where one or both of the partners were childless, remaining without a child was a fundamental concern.

In discussions about number of children, HIV status was taken into consideration more when deciding to continue bearing children..

> *"A person who has been diagnosed with HIV has limited number of children that she would like to have while someone without HIV do not have a limited number of children that she must have." – Female, focus group discussion, Lighthouse clinic*

Interestingly, many agreed that persons who are HIV negative do not have to consider contraception or limiting the number of children in their family.

Influences outside the couple:

Family members were also a strong influence in the decision to have additional children. HIV status complicated the discussions with family members because many choose not to disclose their status to their families for fear of being discriminated against. Even for those family members who do know the couple's status, they may not understand all the additional health considerations for HIV positive couples beyond the use of condoms to prevent transmission.

> "*Especially in villages when you have one child people laugh at you. They ask you to say, why are you having only one child say for example male side relatives they go to their relative secretly to ask him why he is having only one child but the thing is they don't know the importance of not*

having children when you are HIV positive" – Female, focus group discussion, Martin Preuss Center clinic

Both men and women agreed that for people residing in more rural areas the familial pressure was usually stronger than for those living in more urban areas. Many spoke of pressures from their family in villages to keep producing children.

The social and familial influences in communities across Malawi are very strong, especially so when it comes to family size and number of children. Men and women feel pressure to bear children soon after marriage and in many cases are expected to have large families.

"you might decide not to have a child to avoid infecting him but the husband comes to say I want a child. At the same time you start to think to say should I stay without a child and if you see your friends laughing at you, then you decide to have a child because a person cannot stay without having a child" – Female, focus group discussion, Lighthouse clinic

Women, in particular, were extremely concerned with the perceptions of their peers. Many mentioned friends would laugh or mock them for remaining childless or only having a few children. Women in many of the focus groups agreed that peer pressure could be a strong factor in their desire to have more children.

Discussion:

This study sheds light on the complex influences both men and women face when making fertility decisions, both in and out of the context of HIV, in the periurban setting of Lilongwe District, Malawi. The men and women participating in the focus groups shared their insights into the challenges they face when deciding their future fertility

goals and how those goals can change. The participants spoke of fertility in the context of being HIV positive in comparison to those who were HIV negative, which is a unique aspect of this study.

The intersection of the 5 domains outlined in this study, partner desires, health concerns, financial considerations, current number of children and influences outside the couple, were identified as the strongest influences on HIV positive men and women when making their fertility decisions. Partner desires, more specifically male desires, appeared to be the most influential factor from both the male and female perspectives, which mirrors the findings of similar studies in different settings [14, 15]. Peer pressure or envy is rarely mentioned in previous literature addressing situations where women in particular felt the pull to have additional children when seeing peers pregnant or with children. Financial limitations and the additional burden of being HIV positive was an influence that both men and women agreed would be a deterrent to continue child bearing [16]. However, this appeared to be the weakest of all the factors influencing conversation around the decision to have additional children.

Previous studies with similar aims indicated that partner influence and external familial pressures were strong mitigating factors for the decision to have additional children. The findings presented here are similar to those found in studies conducted in an urban South African setting [12, 17]. Also similar to findings from other studies, participants were more concerned with transmission to a child than the potential transmission to a partner [14].

Similar to findings in other studies, the current number of children was a strong indication on whether to continue bearing children for both men and women [16].

Participants indicated the current number of children as an influence in concordance with the number of children a future partner may desire as a strong influence. Further supporting the strength of partner influence on the decision to continue to bear children[18].

Participants acknowledged limiting fertility or ceasing fertility was a health benefit but that was often a secondary consideration to other external factors. Women, in particular, indicated that external factors were stronger influences in their decision to continuing bearing children over their own initial inclinations to cease fertility.

Technical issues in recording and transcribing of focus groups and in-depth interviews resulted in a loss of data. Fortunately, the data that was collected and transcribed allowed for saturation in decision-making influences from the focus groups. Due to the low number of in-depth interviews, it is unclear if we could have delved deeper into the key domains in individual decision-making processes. The sampling strategy used in this study also limits its applicability to the experience of HIV positive individuals who are not currently in treatment. Participants were patients enrolled in the ART program at Lighthouse Trust clinics and were receiving regular care from their facilities. Further, the demographic information collected for participants in both focus groups and in-depth interviews were limited, making it difficult to contextualize our findings in terms of [what variables].

The factors influencing fertility decisions for HIV positive persons are multifaceted and complex. This study identified five key areas for people living with HIV that were important in fertility decision-making which highlight a need for further interventions.

The participants in this study struggled with communicating their own fertility desires to their partners and family members. Providing counseling and guidance for HIV positive individuals attending ART clinic that specifically addresses disclosure to partners and family members could help mitigate some of the communication barriers. Providing information and examples of how to express their fertility goals and health concerns could also impact fertility decisions [19, 20].

Participants in our study indicated transmission concerns as a major factor influencing their fertility decisions. Health facilities need to provide targeted health recommendations for HIV positive persons regarding fertility and options for those who choose to continue their fertility. HIV positive individuals who decide to continue their fertility should be encouraged to do so under the guidance of health professionals to limit the risk of transmission to their partner or child. Fertility recommendations should also be made known to the wider Malawian population, as family pressure was a strong influence on fertility decisions. Precaution should be taken to emphasize desire to limit fertility does not directly indicate an HIV positive status.

HIV positive persons wishing to limit their fertility need to understand their contraceptive options and location of family planning services. For the participants of this study, family planning services were available at or near the clinics in which they were receiving their ART treatment. Access to contraceptives is not unique to HIV positive persons, creating an environment where both men and women can access information and methods is key to uptake in family planning in support of fertility goals.

This study illuminated influences that contribute to fertility decision-making practices among HIV positive persons in Malawi. Further research could widen the scope

of this study and investigate non-Lighthouse Trust patients, HIV positive Malawians in rural settings and HIV negative persons.

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Barriers to Modern Contraceptive uptake and continued use among HIV positive individuals in Lilongwe, Malawi

Abstract:

Background: HIV positive Malawians of reproductive age account for approximately 10.8% of the population. Studies indicate Malawians are interested in modern contraceptive methods but uptake of methods remains low. This study looks to investigate the barriers to uptake and continued use of modern contraceptives among HIV positive individuals living in Lilongwe, Malawi.

Methods: From May to July 2012, a reproductive knowledge, attitudes and practices study was conducted at two Lighthouse Trust clinics in Lilongwe, Malawi. All participants were HIV positive men and women enrolled in ART programs. Thirteen single sex focus group discussions and eight in-depth interviews were used for the purposes of this study. A secondary data analysis was conducted to barriers to uptake and continued use of modern contraceptive methods in the context of HIV.

Findings: For HIV positive individuals interested in limiting or ceasing their fertility barriers to uptake and continued use of modern contraceptives prevent people from reaching their fertility goals. The study population identified four barriers to their uptake of modern contraceptive; misconceptions relating to contraceptive methods and their potential side effects, condom use, access to family planning services, and male influence on the uptake of contraceptives.

Discussion: This study found interesting barriers to uptake and continued use of modern contraceptive methods among HIV positive individuals. Although some of the barriers were similar to those found with HIV negative individuals, these barriers were augmented for the study population.

Introduction:

Access to family planning services and information on modern contraceptive methods is limited in many developing countries [1]. Malawi, a country in sub-Saharan Africa with a 10.8% HIV prevalence rate, continues to maintain a high total fertility rate of 5.7 children in her lifetime. Malawians report high levels of knowledge of at least one method of modern contraception, however knowledge of a method does not indicate accurate understanding of the method nor does it translate into use. While, 65% of women reported ever using modern methods, the contraceptive prevalence rate is 33%, which is significantly lower than some other countries in sub-Saharan Africa (contraceptive prevalence rate for Southern Africa is 58%) [4, 5] and suggests a high unmet need for contraception. According to the most recent Malawi Demographic and Health Survey report, among women with births in the previous 5-years, 45% of pregnancies were unwanted (26%) or mistimed (19%) [4]. Interestingly, with the high percentage of unwanted or mistimed pregnancies only 26% of married women report an unmet need for family planning.

The breakdown of contraceptive use in Malawi varies greatly between modern contraceptive methods. Injectable methods are the most commonly used among women of reproductive age: 48.8% of women have previously used and 19.2% are currently using injectables. In contrast, only 1.9% of women reported currently using oral

contraceptives. LARC usage remains quite low, with only 1.6% of women utilizing IUDs or implants; only 2.5% of women report having ever used a LARC method. Reports of condom use varies greatly between men and women, 47.8% of men report having ever used a male condom compared to the 18.6% of women[4].

Currently, 1.1 million Malawians are living with HIV [6]. In the 1990s and early 2000s, fertility rates a declined among HIV positive women due to late stage diagnosis of HIV [7]. Prior studies have suggested that the there is a higher use of modern contraceptive methods among HIV infected persons as compared to HIV negative individuals [2]. However, unmet needs for contraception persist as barriers remain to obtaining family planning services, such as access, method selection, community misconception and continuation or methods[3]. Further, it is unclear if these barriers differ for HIV infected individuals. Recent evidence suggests that fertility rates of HIV positive women are now returning to rates similar to those of HIV negative women [8-10]. This change may reflect improved access to antiretroviral therapy (ART) and better health outcomes. However, further understanding of this upward trend is warranted and may reflect unique barriers to contraception among the HIV infected population. This study looks at the barriers to uptake and continued use of modern contraceptives among HIV positive individuals currently enrolled in an ART program in Lilongwe, Malawi and how these may differ from the barriers HIV negative individuals face.

Methods:

The primary aim of the study was to assess the reproductive health knowledge, attitudes and practices among HIV positive individuals in regards to their family planning options. This qualitative study was conducted at 2 Lighthouse Trust clinics in the

Lilongwe District of Malawi, Lighthouse Clinic and Martin Preuss Center. Participants were selected from a population of HIV positive persons enrolled in ART programs at one of the two Lighthouse Trust facilities. Data were collected through focus groups and in-depth interviews in order to identify barriers to uptake and use of family planning among HIV positive individuals receiving treatment at these clinics.

Data was collected from May 2012 through July 2012. A convenience sample of women and men were recruited from the waiting areas of these clinics and invited to participate in one of the focus groups or in depth interview. Data was collected by the Malawian organization Research for Equity and Community Health Trust (REACH Trust). REACH Trust hired four local Malawians with relevant experience to conduct the focus groups and interviews. The focus groups and in-depth interviews covered domains including living with HIV, concerns about transmission (vertical and horizontal), fertility goals and family planning.

Since this study looks to identify barriers to uptake in modern contraceptive use, it is important to clarify the exposure to family planning services for this study population. Lighthouse clinic offers family planning services on site and Martin Preuss Center clinic is situated next to a government health facility, which has an operational family planning clinic. Patients enrolled in the ART program return to their clinic every three months to receive ART treatments and have access to family planning services at each visit as well as free access at government clinics.

Focus groups and in-depth interviews were conducted in the local language of Chichewa. Nineteen single sex focus groups were conducted; each session consisted of six to eight HIV positive males or females. Focus groups continued until saturation was

reached. Interviews were used to corroborate the findings of the focus groups and investigate if individual level barriers matched those of the focus groups. Focus groups and in-depth interviews were transcribed and translated into English, however due to technical issues with recording devices, several interviews and focus groups were unavailable for this analysis. Thirteen focus groups and eight in-depth interviews were used in this analysis, (85 total participants, Table 1 a and 1b).

Table 1a: Participants in Focus Group Discussion			
	Male	Female	Total
Martin Preuss Center (# groups)	31 (5)	18 (3)	49
Lighthouse (# groups)	18 (3)	12 (2)	30
Total	49	30	79

Table 1b: Participants in In-Depth Interviews			
	Male	Female	Total
Martin Preuss Center	2	0	2
Lighthouse	4	2	6
Total	6	2	8

Translations were checked to ensure accuracy and any expressions in Chichewa that did not translate well to English were left in Chichewa. Family planning options and views were discussed in all the focus groups and in-depth interviews included in the analysis. Upon completion of transcription and translation, all focus group files were uploaded into MAXQDA version 10 (Verbi GMBH, Berlin) for coding and analysis.

REACH Trust conducted initial coding of the data for general reproductive health themes. After review of the codes it was determined that a new codebook was needed for the purposes of this study. The primary researcher for this study recoded data relating to

issues directly to barriers in contraceptive uptake and continued use of modern contraceptive methods. Codes were developed using inductive and deductive methods. Coded segments were then pulled by theme and further investigations of patterns and variations within each theme. After analysis of the codes, five themes were identified as influences for men and women in deciding their fertility. For the purposes of this paper the focus groups were primarily used as the source of data, the in depth interviews were used for corroboration of findings from the focus group discussions.

Findings:

Participants were asked about their general knowledge and opinion of modern contraceptives. Through all of the discussions four main themes emerged as barriers for individuals to access and utilize modern contraceptive methods: misconceptions and side effects of available modern contraceptive methods, condom use, access to family planning services and male influence on contraceptive uptake. Although several of the aspects raised were common to all individuals despite of their HIV status, the effects of many of these barriers were augmented among HIV positive individuals.

Misconceptions and Side Effects:

Misconceptions and side effects of modern contraceptive methods were overwhelmingly the largest barrier to uptake for men and women. There was general distrust in the efficacy of family planning methods, both in preventing pregnancy and allowing women to return to fertility after use.

> *If I use family planning now I might not have a child in future when I want to have one. People have such concerns in families. – Female, focus group discussion, Martin Preuss Center Clinic*

Participants also spoke of concerns for the five specific modern contraceptive methods discussed in the groups: oral contraceptives, injectable methods, implants, IUDs and condoms. Each method had unique barriers and myths as well as differing levels of concern and misinformation regarding the side effects. Men spoke more broadly about their general concerns with modern contraceptive methods while women were able to articulate specific concerns for each method. In focus group discussion with both men and women the sources for this information varied. Although the health facility was mentioned as a source of information, overwhelmingly the sources for contraceptive information came from family members or peers in the community.

Oral contraceptive methods were known across all groups but did not appear to be a method of choice. Concerns relating to oral contraceptives and their effect on the body were discussed throughout most of the women's focus groups.

> *I heard that they cause a tumor in the stomach; they say they converge at one place since you take them on daily basis, so they just converge at one place that's why they cause some diseases – Female, focus group discussion, Lighthouse Clinic*

Men knew very little about oral contraceptives beyond identifying it as a contraceptive option. Participants did not speak of oral contraceptive issues as different for HIV positive and negative women.

Injectable contraceptives were the most common method used among women. The majority of the men's focus groups could identify it as a family planning method without probing. However, men and women both expressed concerns on side effects.

Other fears you have is that when you are using the injection, you don't experience menstruation so you have fears because such things are supposed to be removed then if you stay two or three years like that you find your stomach swelling up because you are not menstruating so you have concerns that maybe such things will cause you some problems. – Female, focus group discussion, Lighthouse clinic

Although long acting reversible contraceptives (LARC) methods such as implants and IUDs were reported as the least popular, many of the participants knew about both methods and spoke positively about them. Implants faced more critiques than IUDs amongst the participants. Women spoke of infections at the insertion site and issues with the implants being left in for too long.

About Norplant [implant] *I heard that if you take time before removing it that place develops into a wound and you die with it I think; that's how I hear about it only that I have never used all that too. – Female, focus group discussion Lighthouse clinic*

Additionally, women were concerned with the reversibility of both IUD and implant methods.

Some say when they insert something here (arm) I don't know what they call it but they say they experience numbness when they put that or sometimes becoming infertile, when they feel it is time to have a child they do not have. – Female, focus group discussion, Lighthouse clinic

Because you will never have children again – (speaking of using an IUD) Female, focus group discussion, Martin Preuss Center Clinic

Infertility after use of LARC methods was a consistent concern across focus groups for both men and women.

Men and women were concerned about the interaction of modern contraceptives and HIV but did not mention the potential effect on method efficacy.

The family planning methods which are available now they say they are not 100%; they say they cause tumors, cancer and if you talk of us we are already HIV positive, the methods continue to give us problems and because we have no options, these are the methods available, what else can we do? We use the same methods. – Female, focus group discussion, Martin Preuss Center Clinic

Some participants indicated concern more specifically relating to modern contraceptive methods and the interaction with their antiretroviral therapy.

The ARVs don't require us to take other drugs/pills in addition to what we are already taking because it is like increasing complications – Female, focus group discussion, Lighthouse Clinic

People always say that being on ART and contraceptives at the same time has a lot of side effects. – Female, in-depth interview, Lighthouse Clinic

The side effects that participants spoke of, however, were often inaccurate; these individuals were already dealing with health concerns relating to their ART program.

Men and women were unaware of the potential for lower efficacy of certain methods when taken in conjunction with ART medication. Lack of proper information on their method-specific concerns, coupled with a positive HIV status, kept many from using modern contraceptive methods other than condoms.

Condom Use:

Condoms were universally known as the only method to prevent the transmission of HIV; this was especially important for those in sero-discordant relationships. Men and women acknowledged the importance of condoms and many mentioned currently using them in their own relationships. However, participants were less confident in the efficacy of the condom as a contraceptive method.

> *A person would use a family planning method but later was found pregnant and we have also heard others who had used a condom but were found pregnant. – Male, focus group discussion, Lighthouse Clinic*

Additionally, participants collectively understood the importance of continued condom use. However, user fatigue was an issue for couples who had been using condoms for long durations of time.

> *They feel they have used condoms for a long time and they get tired of them so they just put them aside and agree to have sex without the condoms and they discuss what could be done if something happens but they just say whatever happens we will accept – Male, focus group discussion, Lighthouse clinic*

The concept of dual protection, using condoms along with another modern contraceptive method, was not widely discussed in the focus groups.

Access to Family Planning Services:

For this study population family planning services were offered at or near the two ART facilities. Therefore participants were regularly in close proximity to family planning services, however access was still considered a barrier. Perceived distance to health facilities offering family planning services was an issue for many participants; for some individuals the closest health facility is privately run and services are provided at a cost to the patients.

> *if the hospital is far it becomes difficult for people to go and access family planning services – Male, focus group discussion, Martin Preuss Center Clinic*

For men and women without accessible health facilities, the cost and time to reach the closest facility prevents them from seeking family planning services.

Some Malawians are able to pay the fee, however, many are unable to afford treatment at the private facility.

> *At first people had to take a bus and come here to access family planning methods while others would even go to Central hospital like when my wife wanted to use family planning she was accessing that from Central hospital. – Male, focus group discussion, Martin Preuss Center Clinic*

> *It happens if you may decide to go to a private clinic after looking at distance and time for you to go to a public facility; they pay there. – Male, focus group discussion, Martin Preuss Center Clinic*

Both the perceived cost and distance proved to be barriers to uptake for participants. Distance was an even greater barrier for methods that require frequent health facility visits, such as injectables and oral contraceptives.

> *Even when you are at work, you cannot be just excusing yourself to say I am going to the hospital to get the injection each and every time no, they can sack you from your work. – Female, focus group discussion, Lighthouse clinic*

This disruption to daily life and employment would keep women from maintaining the necessary visits to ensure efficacy of the methods.

Here again, access was not discussed in relation to their HIV positive status. However, due to enrollment in the ART program participants would be accessing ART services at health facilities every three months for their medication.

Male Influence on Contraceptive Uptake:

Male influence on contraceptive decisions within a couple was a strong barrier to uptake for men and women. Both men and women saw the decision as something they needed to make with their partner and men specifically spoke of their need to be part of the decision making process.

> *A woman alone cannot go… she thinks that if I do that this one will leave me and marry another one when he wants to have a child. She would love if both of you went together– Male, focus group discussion, Martin Preuss Center Clinic*

Participants noted that this was a challenge; since family planning messages were delivered to women at under-5 clinics, men had little exposure to information.

The majority of participants were in support of modern contraceptive methods. However, a few men suggested that the use of certain modern contraceptives would increase sexual promiscuity in women.

> *Things can happen to a woman who is not well behaved because she knows she will be meeting other men outside – Male, focus group discussion, Lighthouse Clinic*

Stigma towards the behavior of women who use modern contraceptives resulted in unwillingness for some men to discuss family planning options.

Few women said that men restrict their wives from using modern contraceptive methods due to fertility desires or uncertainty of available modern contraceptive methods and their functionality. For some women, their male counterparts made the final decision on contraceptives without much discussion. In cases where he refused family planning services, women spoke of choosing methods that could be hidden from their husbands.

> *Due to pressure, which she receives from her partner because there are some who are less understanding so to prevent herself from having a child she protects herself by getting an injection. – Female, focus group discussion, Lighthouse Clinic*

Many men spoke of understanding the importance of limiting fertility in the context of HIV. They were able to state that couples should limit or cease fertility. However, very few men knew much about modern contraceptive methods beyond identifying them by name.

Discussion:

The results of this study highlight the range of barriers to uptake of modern contraceptive use for HIV positive individuals in Lilongwe, Malawi. Previous studies indicated myths and misinformation towards modern contraceptives was a strong barrier to uptake in many countries [11]. The sources for misinformation tended to come from peers or stories heard in the community [12]. The study population either placed higher value in the knowledge of their peers over their health providers or participants were not receiving family planning information at the health facility.

Participants also indicated concerns relating to the efficacy of family planning methods. Current contraceptive use in southern Africa is reliant on oral contraceptive pills and injectable methods. Due to the dependence on user adherence, these methods tend to result in the highest failure rate, which may contribute to community perception regarding on the efficacy of these methods [13]. Additionally, studies have indicated lower efficacy in certain hormonal contraceptive methods, when taken in conjunction with certain types of ART therapy [14]. In recent years a shift towards LARC methods especially in HIV positive women has been met with a positive response in small numbers, indicating potential for wider use of these methods [15]. Emphasizing the reversible aspect is key to encouraging uptake across the board but especially crucial for long acting methods.

Current reported condom use remains low in southern Africa (10%) [1]. Similar to other studies, participants in focus group discussions and in-depths interviews participants understood the importance of condom use [16]. Uptake of condoms use

among the study population appears to be quite good from participant discussions. However it is the continued use of condoms that poses a barrier. User fatigue after prolonged condom use was a concern for many, and further highlights the need for dual method use to prevent pregnancy.

Access to modern contraceptive methods was affected by both the physical barriers of reaching the health facilities and the methods available at those facilities [17]. Challenges, or perceived challenges, to those seeking modern contraceptive methods not only result in low uptake but discontinuation [3]. As other studies have indicated, it is important to reduce the burden of reproductive health costs on those who are most in need of the services [18]. Currently in Malawi, family planning services are provided free of charge at government health facilities and offer a range of contraceptive methods. Expansion of mobile family planning services and promotion of LARC methods could serve as solutions for people with limited access to health facilities. Even though participants in this study were enrolled in an ART program with regularly scheduled visits, they perceived access to health facilities as a main barrier uptake of modern contraceptive methods. This could be due to lack of awareness regarding available contraception at the clinic or near the to the clinic.

Male knowledge and influence was a clear factor for those contemplating use of modern contraceptives. Previous studies in other regions of Africa found that male involvement and approval of family planning resulted in higher uptake of modern contraceptives [19]. Unfortunately, current family planning programs are solely targeted at women and information is disseminated in locations that are typically frequented by women only (under-5 clinics, antenatal clinics) [20]. This

further alienates males from the family planning discussion as it limits their knowledge of the function of modern methods. Without access to information at health facilities or other reliable sources, many are receiving inaccurate information from the community [12]. It is imperative for men to understand modern contraceptive methods available for women, especially if one or both partners are HIV positive.

For HIV positive individuals in this study the barriers were interconnected. Myths and misconceptions influenced male knowledge of methods and limited participation in family planning discussions. Health concerns and access to modern contraceptive methods prevented HIV positive individuals from seeking family planning services. Condom use, while overwhelmingly supported across focus groups as an important method to prevent transmission and limit fertility, also faced barriers in access and user fatigue. Excluding condoms, individuals in focus groups and in depth interviews did not directly discuss the worries that their contraception would impact transmission of HIV, partner acquisition of HIV or impact their disease progression. Although a recent public health concern, this debate among researchers remains removed from the concerns of the patients. Notably the data on this topic is inconsistent and we are hopeful that until reliable data is available, these potential concerns do not enter the discussion into contraceptives and pose a barrier to use. Barriers to uptake and continued use of modern contraceptives are affected on many different levels for the study population.

This study is not without limitations. Technical issues resulted in the loss of focus group and in-depth interview data, it is uncertain how the lost data may have impacted the findings. During data collection, participant demographic information was not

uniformly collected. As a result of this oversight we were unable to discern whether barriers identified can be associated with age, parity, education level or economic status [21, 22].

Ostensibly, the barriers to uptake and continued use of modern contraception for HIV negative persons are similar to those that exist for HIV positive persons. However given the context of HIV there are slight differences within the each identified barrier.

Specific misinformation about the side effects and efficacy of modern contraceptive methods coupled with concerns of possible ART drug interaction proved a major barrier. Family planning services need to incorporate specific messaging targeted towards HIV positive persons wanting to use modern contraceptive methods, with special consideration on HIV positive persons on ART. Additionally, in order to ensure retention of the modern contraceptive methods offered it is important that information be given at multiple visits over time [23].

Access is a barrier to uptake for both HIV positive and negative individuals. HIV positive persons enrolled in ART programs or closely engaged in the health facility, need to understand the variety of services offered through the health facility. For our study population some of the concerns with access could have been mitigated with proper sensitization to services offered in the clinics.

Proper consultation and recommendation of methods to match fertility goals is essential to the successful uptake of modern contraceptive methods. Special attention should be paid to the reversibility of modern contraceptive methods, as infertility was a great concern. To ensure successful uptake to modern contraceptive methods and continued use of methods, it is crucial that men are involved in family planning services

[19]. Information on family planning services and modern contraceptive methods for men should not be limited to condom use instructions. Additionally, this study identifies the need for family planning services and information specific to HIV positive individuals, targeting men and women together as opposed to individually [19, 24]. Men and women need to receive the same information on modern contraceptive options to ensure both parties are making informed decisions in regards to family planning.

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