Psychosocial factors associated with antiretroviral therapy adherence among HIV positive partners in discordant relationships

Thesis submitted in partial fulfillment for the award of Master of Science in Clinical psychology at the University of Nairobi School of medicine department of psychiatry.

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DEDICATION

This thesis is dedicated to God almighty for his provisions and my family for their unwavering support and patience during my post graduate studies. Special thanks to my mother Wanjiru for her prayers and encouragement.

DECLARATION

This thesis is my original work and has not been presented for a degree or other awards in any other University.

…….. …….

Signature date

Mwathi John Njoroge H56/71321/07

SUPERVISORS APPROVAL

This thesis has been submitted for examination with our approval as university supervisors.

……. ……

Signature date

Dr. Muthoni Mathai

……. …….

Signature date

Dr. John Mburu

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Contents

DEDICATION ii

DECLARATION iii

SUPERVISORS APPROVAL iv

ACKNOWLEDGEMENT v

LIST OF ABBREVIATIONS AND ACRONYMS ix

DEFINATION OF OPERATIONAL TERMS USED IN THIS STUDY x

ABSTRACT xi

CHAPTER 1 1

1.0 INTRODUCTION 1

1.1 Background information 1

CHAPTER 2 3

2.1 LITERATURE REVIEW 3

2.2 The social environment and ARV adherence 5

2.3 Statement of the problem 6

2.4 Study justification 6

2.5 Objectives 7

2.5.1 Main objective 7

2.5.2 Specific objectives 7

CHAPTER 3 9

3.0 STUDY METHODOLOGY 9

3.1 Study design 9

3.2 Study site 9

3.3 Study population 9

3.3.1 Inclusion criteria 9

3.3.2 Exclusion criteria 9

3.3.3 Recruitment and consent 10

3.4 Sampling technique 10

3.4.1 Sample size determination. 10
3.4.2 Sampling method 11
3.5 Data collection procedure 11
3.5.1 Data collection tools 12
3.5.2 Focus Group Discussions 12
3.6 Data management and statistical analysis plans 12
3.7 Ethical considerations 13
CHAPTER 4 14
4.0 RESULTS 14
4.1 Introduction 14
4.2 Social demographic characteristics 14
4.3 Socioeconomic characteristics 15
4.4 Adherence to Care & Treatment 16
4.5 Community and social support 17
4.6 Sexual risky behaviors 18
4.7 Faith in Treatment 18
4.8 Depressive symptoms and mental health 19
4.9 Social harm/intimate partner violence 19
CHAPTER 5 22
DISCUSSION, CONCLUSION AND RECCOMEDATIONS 22
5.1 Discussion 22
5.1.1 Social demographic characteristics 22
5.1.2 Adherence and treatment 22
5.1.3 Family and Community Support 23
5.1.4 Depressive symptoms & other mental health issues 24
5.1.5 Social harm/intimate partner violence 25
5.1.6 Support Provided by Clinic /Hospital 26
5.1.7 Life style and risky behaviors 26

5.1.8 Confidence in Treatment 27

5.1.9 Limitations of the study 27

5.2 Conclusions 28

5.3 Recommendations 28

APPPENDICES 29

REFERRENCES 37

LIST OF ABBREVIATIONS AND ACRONYMS

AIDS	Acquired immune deficiency syndrome
ART	Antiretroviral Therapy
CCC	Comprehensive care clinic
FGD	Focus group discussion
KAIS	Kenya Aids Indicator Survey
IPV	Intimate partner violence
KDHS	Kenya demographic health survey
PTSD	Post traumatic stress disorder
UNAIDS	United Nations Program on HIVAIDS
VCT	Voluntary counseling and testing
SSA	Sub Saharan Africa
WHO	World Health Organization

DEFINATION OF OPERATIONAL TERMS USED IN THIS STUDY

Adherence

Medication adherence usually refers to whether patients take their medications as prescribed (eg, twice daily), as well as whether they continue to take a prescribed medication.

HIV discordant couple

These are two partners in a steady sexual relationship where one is HIV infected and the other one is not

Intimate partner violence

The term intimate partner violence describes physical, sexual, or psychological harm by a current or former partner or spouse

Self reported adherence

A self report adherence measure used in routine clinical practice would ideally be brief, acceptable to patients involving a report of how they used medication

ABSTRACT

Introduction; The HIV discordant sexual partners in stable relationships account for 5% of all couples in Kenya (KAIS, 2012). New HIV infections have been noted to be highest among this segment of the community. Recent findings have demonstrated that use of ARVs by an infected partner can lower chances of HIV transmission by 96% to their uninfected partner(Kathy Stover 2011). For drugs to work they must be taken as instructed, poor adherence is a major cause of suboptimal response to medication. This research explored psychosocial factors associated with adherence to ARVs among infected partners in discordant relationships in Thika district.

Methodology: The study utilized cross sectional descriptive design. Adherence was assessed using a questionnaire to collect quantitative data and a focus group discussion guide was designed and used for collection of qualitative data.

Results: Findings revealed an adherence level of 91.89% among the 222 respondents. Motivators to adherence reported included belief in treatment efficacy (97.17%) and social support (74% p=0.003). Risk factors associated with non-adherence included lack of transport (20%), forgetting to take medication and illness (16.7%) and family and marital conflict (12.5%). Psychiatric morbidity observed among the participants included depressive symptoms (18.3%) (p–value 0.002. Alcohol use (22.5%) and other psychoactive drugs like tobacco at 18.8%.

Intimate partner violence and risky sexual behavior were also risk factors for non-adherence at p=0.028 and p<0.005 respectively.

Recommendations: The study proposes putting in place interventions aimed at addressing social economic conditions, intimate partner violence, and treatment of psychiatric illness so as to address the sub optimal levels of adherence.

CHAPTER 1

1.0 INTRODUCTION

1.1 Background information

The UNAIDS (2010) reports that there are 5 million people on Antiretroviral Therapy (ART), 30% of whom were newly initiated into ART in 2009 alone. An estimated 33 million people are infected with the AIDS virus globally and it is projected that the majority will die prematurely. There is wide spread acceptance that optimal adherence requires an adherence rate of>95% (Castro,2005) since such high levels of adherence are associated with more viral suppression (Friedland, 2006).

Due to the combination of different agents in a regimen and their varying drug to drug interaction, some treatment regimens require different levels of adherence (Friedland, 2006; Castro,2005). Despite the drugs regimens being simplified and tolerable, strict adherence to medication has continued being a challenge, with studies showing varying levels of adherence.

In North America, Reisneretal (2009) found adherence levels varied from as low as 28.3% in some populations. A study in Ukraine revealed that psychological stress, poor emotional adaptation, excessive use of alcohol and drugs and lack of freedom to discuss 'safer sex' influenced HIV risky behaviors among HIV discordant partnerships (Rispel *et al*., 2009). The HIV pandemic is continuing almost unabated in many developing countries, particularly hard hit is sub-Saharan Africa (SSA), and the impact of the scourge can potentially devastate and cripple social and economic development in Africa (Wyk *et al*., 2010). The SSA alone accounts for 22.1 HIV-1 infected individuals (Natalie *et al*., 2010). The prevalence of HIV discordance among married and cohabiting couples in SSA is high ranging from 3-20% in general population to 20-35% in couples in which one partner seeks care for HIV related conditions (Lingappa *et al*., 2008). In an evaluation of ART programs in Uganda, Zambia and Nigeria, adherence rates was 90% almost similar to findings by (Hardon *et al*., 2006) of adherence rates of 77% in SSA.

In Kenya an estimated 863,000 women and 519,000 men aged 15-64 years were living with HIV by 2007, repress (Talam *et al*.,2008)while rates of 74% was reported in 2009 (Wanjohi,2009). Among the reasons given for missing doses was forgetting, being away from home, being busy or even falling asleep (Chandwani *et al*, 2013). Among the HIV infected married and cohabiting couples in Kenya 9.7% had one HIV-un infected partner at the time when the last KAIS 2007 survey was conducted and this percentage represented a total of 344,000 couples.

CHAPTER 2

2.1 LITERATURE REVIEW

There are various factors that can affect ART adherence and also influence treatment outcomes. Among these are age, education, employment status, income, family type, cost of medication, discomfort with disclosure of HIV status, medication, use of alcohol and drugs, religious and spiritual beliefs, presence or absence of AIDS symptoms, levels of health education and healthcare satisfaction and the presence of co-morbid conditions (Dietz *et al*., 2010). The multiple drugs may also lead to the undermining of treatment adherence further compounded by undesirable adverse effects (Wang *et al*., 2008). Psycho social support is a motivating factor for ARVs adherence (Gilks*et al*., 2006). High rates of substance abuse and mental illness have been found in studies of HIV-infected adults (Bing *et al*., 2001) with co-morbid substance abuse and mental illness reported in 25-40% of adults, significantly associated with non-adherence to antiretroviral (ARV) medications ((Galvan *et al*.,2003; Ingersoll, 2004).

The reported challenges to HIV discordance include disclosure, limited knowledge of HIV discordance, feelings of isolation and strained relationships following disclosure of positive status to their partners. (Aids care, 2005). A study on couples living in discordance conducted in Ukraine and Africa indicated that it is important to develop positive prevention programs that cater for many people living with HIV (PLWHIV) who are in long term relationships. Social support from a partner can also be a very important source of health and wellbeing and can help in improving adherence to ARVs (Risper *et al*., 2009).

The risk of HIV /AIDS transmission can be reduced from mother to child and sexual exposure by use of ARVs drugs. Studies also indicate that sexual transmission among HIV discordant couples may be lowered where the HIV positive partner is on ARVs.

In a study which utilized Cochrane methods to search electronic databases and conference proceedings for the relevant information identified one randomized trial and seven observational studies, findings indicated that 464 incidents of HIV transmissions 72 among the treated couples and 392 among untreated occurred suggesting strong evidence of protection against HIV acquisition (Anglemyer A .*et al* 2013).

Another study on the ability of early initiation of ARVs observed that 39 HIV transmissions occurred during the course of the study, of these 28 were virologically linked to the infected partner. Of the28 only 1 occurred in the early therapy group. The outcomes indicate that early initiation of ARVs reduces sexual transmission and clinical events which have both personal and public health benefits which can be derived from such interventions (Myron Cohen *et al* 2011).

HIV prevention and trials network (HPTNO52) an HIV clinical trials established that persons with the HIV virus who begin use of ARVs before their immunity deteriorates are 96% less likely to transmit HIV to their uninfected partner but this success not withstanding cannot on its own adequately address the HIV problem globally though when used alongside other interventions it will go a long way in adding to a remarkable collection of public health tools that may provide a significant impact on HIV/AIDS pandemic(Kathy S .2011).

Psychiatric morbidity among discordant couples is high. A study carried out at the couples counseling centre at Kenyatta National Hospital found that depression was the most prevalent condition at 48.3%, with alcohol dependence at 13%. Others included PTSD 9.7%, OCD 8.3% ,generalized anxiety disorder 8.3%, cannabis abuse 4.3% and somatization disorder at 0.70% (Jumba, 2011).

The women were more predisposed to psychiatric disorders than men; negative change of feelings after disclosure of discordance status, disclosing their HIV status to family and friends and change of feeling for their partners were noted to cause psychiatric disorders (Jumba, 2011)

A study at the Moi referral hospital Eldoret, Kenya revealed reasons for poor adherence as being away from home, too busy, work routine, forgetfulness pill burden, and stigma (Talam *et al*., 2009). Another study conducted in the Central province of Kenya revealed that patient factors such as age, household size, alcohol use, occupation, education and social economic and cultural factors such as poverty, transportation cost, cost of food, absenteeism from work, stigma and discrimination, denial, lack of family support, community and employer support, preference to traditional medicine and religion influenced ART adherence. The need to coordinate

ART adherence and family, work responsibilities at home, work place and maintain a cordial interpersonal relationship make it difficult for patients to achieve successful ART adherence. In the same study it was found that the lack of motivation among health care providers due workload; lack of recognition by government for extra work done; lack of capacity building and poor infrastructure make it difficult for health care providers to address the challenges of ART adherence (Nyambura 2008).

2.2 The social environment and ARV adherence

The social environment plays a role as poor social relationships and activities leading to reduced adherence levels (Castro, 2005). Social isolation increases the risk of decreased compliance with medication among PLWHIV (Mehta *et al*, 1997). Most ARV users in Tanzania as a result of disclosure had received various forms of help such reminder to take medicine and transport from family members and friends (Hardon *et al* ., 2007).

It has been proposed that health care providers should encourage HIV disclosure to "at risk' partners and provide ongoing counseling and education to help patients overcome HIV-associated stigma, alcohol abuse, and depression (Natalie, 2010).

Disclosure remains a challenge among the PLWHIV, as non-disclosure may lead to patients taking medication secretly as found in two studies more than 50% of the respondents acknowledged skipping doses as they feared that friends or family might discover their status. Many studies attribute low disclosure to fear of stigma (Hardon *et al*, 2007; Rao *et al*.,2007; Rintamaki *et al.*, 2006;Dodds *et al*.,2003). The stigma concerns are informed by a person's attitude towards HIV and PLWHIV perceptions of other people's attitude towards HIV and experiences with expressions of discrimination directed towards self or other PLWHIV (Rintamaki *et al.*, 2006).A Study by found that lack of adherence is attributable to stigma and that stigma was significantly associated with the likelihood to be adherent(Talam *et al*., (2008). Other social support structures such as peer support groups have been associated with improved adherence levels. ART interventions studies where HIV positive youth went through discussions on difficult issues resulted in 91% adherence levels (Reisner *et al.*,, 2005).

Recognizing the important role that the HIV infected partners in discordant relationships can play in prevention of HIV transmission within the relationship, a radical enquiry into the psychosocial factors that can promote or interfere negatively with adherence is an urgent matter, relationship stability might have the potential of influencing adherence to ARV.

2.3 Statement of the problem

Despite patients' understanding of the consequences of non-adherence to medication, adherence rates are sub optimal (WHO, 2004; Sharon *et al.*, 2006) and long-term adherence interventions are needed for durable effect, particularly in chronic diseases such as HIV (Sharon *et al*., 2006). According to the KAIS (2007) report, 75% of new HIV infections in Kenya are occurring among couples in steady sexual relationships. Recognizing that for any infection to occur there must be one infected partner and one uninfected partner, partners in HIV discordant relationships are at a high risk of transmitting HIV.

Adherence to ARVs has also been identified to be suboptimal hence the need to identify any barriers that contribute to this problem and seek solutions that would be workable.

2.4 Study justification

Identifying psychosocial barriers to adherence among HIV positive partners in HIV discordant relationships may be helpful in lowering the risk of transmission of HIV within the couple. Despite the high rates of HIV discordance in Kenya little has been done to analyze ARV adherence and the various factors that affect the couples in the relationships. The potential risks inherent in HIV discordant relationship of transmitting HIV cannot be ignored by any serious intervention policy hence the need to address the couples agenda. ARVs lower viral load only when treatment regimen is fully adhered to.

This study will address the gaps in research by establishing the psychosocial aspects associated with ARV adherence among the discordant couples. The data on the extent

of the psychosocial factors and their impact on the effectiveness of ARVS in Kenya is limited. The findings from this study will facilitate the formulation of policies, strategies and recommendations on ARV adherence among the discordant couples in Kenya, this may contribute to lowering of new infections in this population.

2.5 Objectives

2.5.1 Main objective

The main objective of this study was to establish the psychosocial factors associated with antiretroviral therapy adherence by discordant partners exposed to the Human Immunodeficiency Virus.

2.5.2 Specific objectives

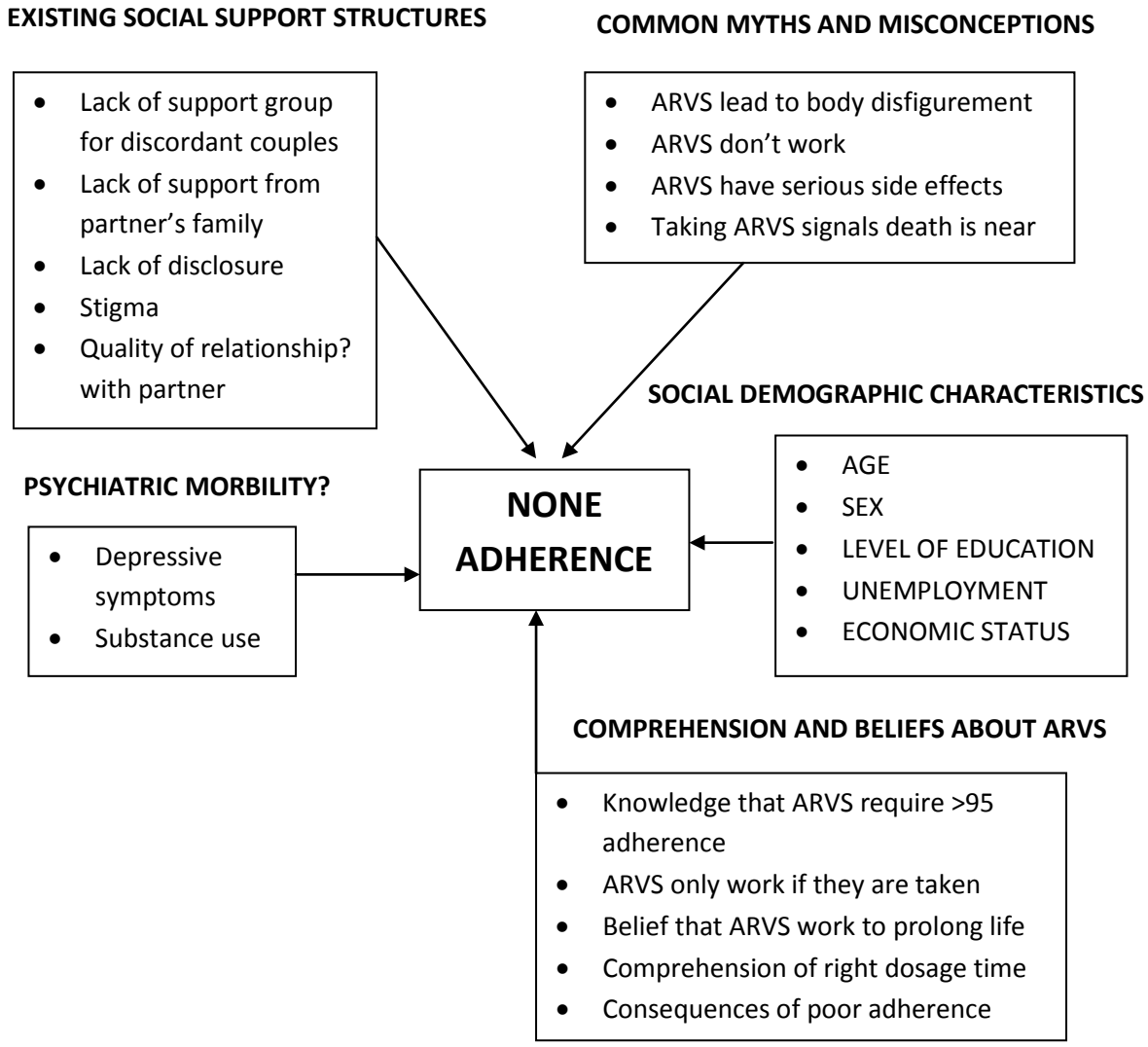
The specific objectives were:

1. To determine the association between adherence, and (1) social demographic factors, (2) psychological symptoms (3) social support and 4. risky sexual behavior.

2. To determine levels of self reported adherence to ARVs among HIV positive partners in HIV discordant relationships at a level 5 hospital.
3. To determine the prevalence of depressive symptoms and substance use among HIV positive partners in discordant relationships
4. To determine the availability of social support for HIV patients on ARVs

2.6 Conceptual frame work

Possible psychosocial correlates to adherence on ARVs among HIV positive partners in discordant relationships.



CHAPTER 3

3.0 STUDY METHODOLOGY

3.1 Study design

Cross sectional descriptive study.

Mixed methods

3.2 Study site

The study was carried out in Thika district hospital in Kenya where there has been an ongoing discordant couple's clinical trial program that has been in existence for the last 5 years. The project is sponsored by the University of Washington and the Kenyatta National Hospital. Thika had over 105 health facilities by the year 2001, the doctor population ratio was about 1; 21940.Average distance to a health care facility is less than 5km. The bed occupancy for HIV/AIDs related illnesses is 60% of the bed occupied by patients. The age of 20-49 years is the most affected majority of who are females. The population as at 2010 was 670,265 with a growth of 2 %. Per annum

3.3 Study population

The study sample was HIV discordant couples attending the Comprehensive Care Clinic at Thika District Hospital.

3.3.1 Inclusion criteria

- HIV positive partners in a discordant relationship.
- Clients taking ARVs.
- Clients initiated on ARVs for a minimum of 3 months.
- Clients having 1 regular partner
- Clients over 18 years of age.
- Clients willing to give informed consent.

3.3.2 Exclusion criteria

Patients who were very sick to answer questions

3.3.3 Recruitment and consent

The Community Health System (CHS) the organization that is sponsoring the CCC clinics in central province was by the time of data collection launching discordant couples support groups at Thika level 5 hospital, the group meetings then became the source of participants for the focus group discussions. They were briefed on the study objectives and those who were interested in taking part were recruited.

The study was also explained to the clients who were either attending their clinic visits or were attending the monthly support group for the discordant couples, other respondents were recruited from the Mother to Mother an organization for Prevention of mother to child program. For those who agreed, written consent was obtained before participation. The clients were informed that participation in the study was voluntary. During the interview high level of confidentiality and privacy was observed.

3.4 Sampling technique

3.4.1 Sample size determination.

The sample calculation was done using the Fisher's formulae (Fisher *et al*; 1998) for cross-sectional survey, where:-

n = minimum sample size

Z = Standard deviation (1.96)

P = Assumed prevalence of ARV adherence (50%)

D = Level of precision (acceptable error rate) = 0.05

Therefore, the sample size (n) is given as shown below

$$n = \frac{Z^{2}_{1-\alpha/2} P(1-P)}{d^{2}}$$

n = $\underline{1.96^2 \text{ x } 0.50 \text{ x } 0.50 \text{ = } 385}$

0.05^2

Since the target population (sampling frame) is less than 10, 000, the sample size is adjusted downwards using the finite **correction** factor ($\frac{1}{1+\frac{n}{N}}$)**. After multiplying the sample size (n) with the finite correction factor, the resulting adjustment is based on the following formulae;**

$$n_{fcf} = \frac{nN}{n+N} = 218$$

Adjusting for 10% non-response, the sample size is adjusted upwards to 240.

3.4.2 Sampling method

Between the month of January 2014 to March 2014 the investigator was at the research site in Thika district hospital, where he was able to meet the patients as they waited to be attended or as they were leaving the clinic, or as they attended all the discordant couples support groups which were held at the clinic or at the Mother to Mother Prevention program where he was able to recruit study participants.

Subjects were selected on a convenience sampling basis whereby patients who were on their routine clinic visits or those attending the discordant couples support groups were approached and briefed about the study those who expressed interest were consented and the questionnaire was administered. Over a period of 4 months until sample size was attained

3.5 Data collection procedure

The study participants were HIV positive partners in HIV discordant relationships. Recruitment was done during the support groups meetings and clinic attendance and those in the mother to mother PMTCT program. The structured questionnaire (appendix 3) contained 38 questions and 7 sections which covered different variables ranging from adherence, social support, risky behavior and intimate partner violence

and psychological symptoms. It was designed by the researcher. Study procedures were explained and participants were requested to participate voluntarily in the study. All study participants who agreed to participate in the study signed informed consent forms and the structured questionnaires were administered by the student.

The researcher interviewed the patients at the clinic in a private room all questionnaires were put in storage.

3.5.1 Data collection tools

Social demographic information was collected using six item questionnaire. Data on adherence and other variables were collected using a 32 item questionnaire which was designed by the researcher. A focus group discussion guide was used to collect qualitative data.

3.5.2 Focus Group Discussions

Four focus group discussions 2 for males and 2 for females were conducted in total 30 participants participated. The data collected during the focus group discussions was coded and transcribed. A summary report was developed identified major themes and the significant associations were determined. The participants who were recruited for the FGDs had come for support groups meetings and their regular clinic visits, they were requested to stay longer and participate in the discussions voluntarily.

3.6 Data management and statistical analysis plans

Data was entered into an access database and exported to excel for range checks. To ensure confidentiality all personal identifiers were removed. The characteristics of the clients were described using means and medians for continuous variables Data Analysis was done using SPSS version 12.0 for windows and Stata version 12. Descriptive statistics including mean, standard deviation, frequency distribution and proportions were done for different groups i.e. age, occupation and level of education. Categorical variables were compared using Chi square test. Logistic Regression analysis was used to analyze ARV adherence

3.7 Ethical considerations

The study was approved by the Ethical and review committee of the Kenyatta National Hospital. The Thika level five medical superintendent and the research committee allowed the researcher to carry out the study at the CCC clinic. All the ethical requirements were observed with respondents who gave written consent. Patients who were found to have need for further management were referred to the psychiatric clinic which is next to the research to the research site.

CHAPTER 4

4.0 RESULTS

4.1 Introduction

The study aimed to establish the psychosocial factors associated with antiretroviral therapy adherence among discordant partners exposed to the HIV, a sample of 222 respondents participated.

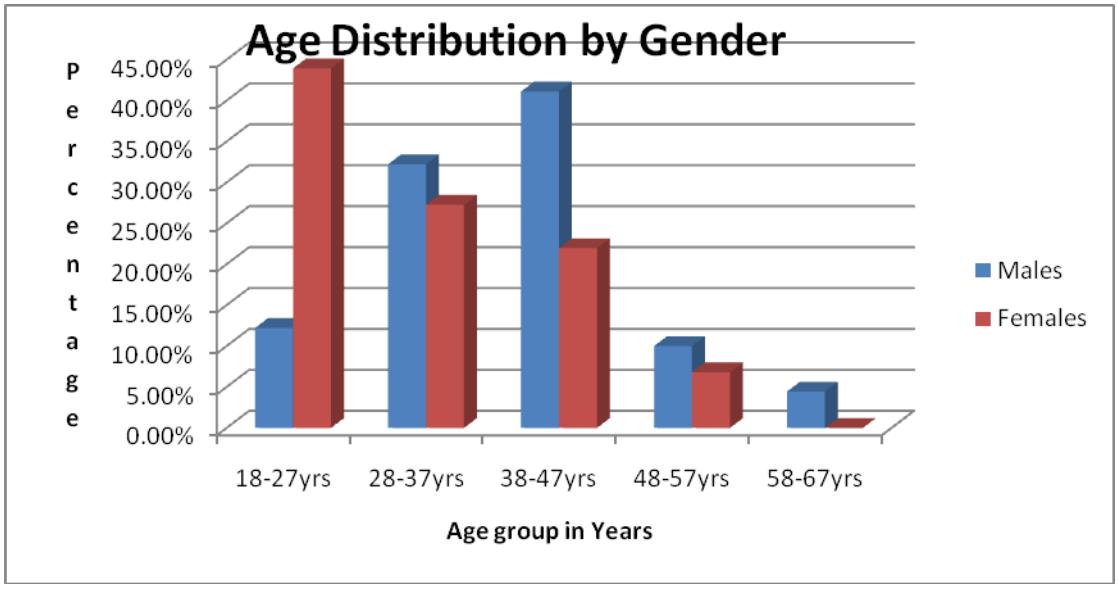
4.2 Social demographic characteristics

The sampled respondents comprised of 90(40.5%) males and 132(59.5%) females. Most of the respondents 112(51.1%) had completed primary school education. Some of the respondents 96(44.0%) were formally employed, 42(19.3%) were business entrepreneurs, 41(18.8%) casual employees and 39(17.9%) were unemployed. Respondents had a mean age of 34.1(±10.1) years within the range of 18 to 64 years with 69(31.7%) aged 18-27 years, 63(28.9%) aged 28-37 and 38-47 years each, 19(8.7%) were aged 48-57 years and 4(1.8%) aged 58-67 years.

4.2.1 Table of Social Demographic Characteristics

CHARACTERISTIC	CATEGORY	FREQUENCY	PERCENT
Gender	Male	88	40.4
	Female	130	59.6
Years of schooling	1-5	27	12.33
	6-10	112	51.14
	11-15	69	31.51
	16-20	11	5.02
Occupation	Formally employed	96	44.0
	Casual	41	18.8
	Business entrepreneur	42	19.3
	Unemployed	39	17.9
Age in years	18-27	69	31.7
	28-37	63	28.9
	38-47	63	28.9
	48-57	19	8.7
	58-67	4	1.8

4.2.2 Graph of Age distribution by Gender



4.3 Socioeconomic characteristics

Findings on income distribution indicated that 67(31.6%) had an average monthly income of Ksh. 11,000-20,000, 60 (28.30%) had above 20,000 ,38(17.92%) had 6,000-10,000 and 47(22.17%) with an income of less than 5,000. Those living in rental houses were 104(53.33%), own houses 88(45.13%) and in relatives houses 3(1.54%). A large number of the respondents 66(29.86%) had 3 people living in their houses, 37(16.74%) had 2 and 4 other people living in their houses, 37(16.74%) had 5 people, 19(8.60%) had 6 people, 9(4.07%) had 7 people, 1(0.5%) had 9 people while the rest had only one person living with them

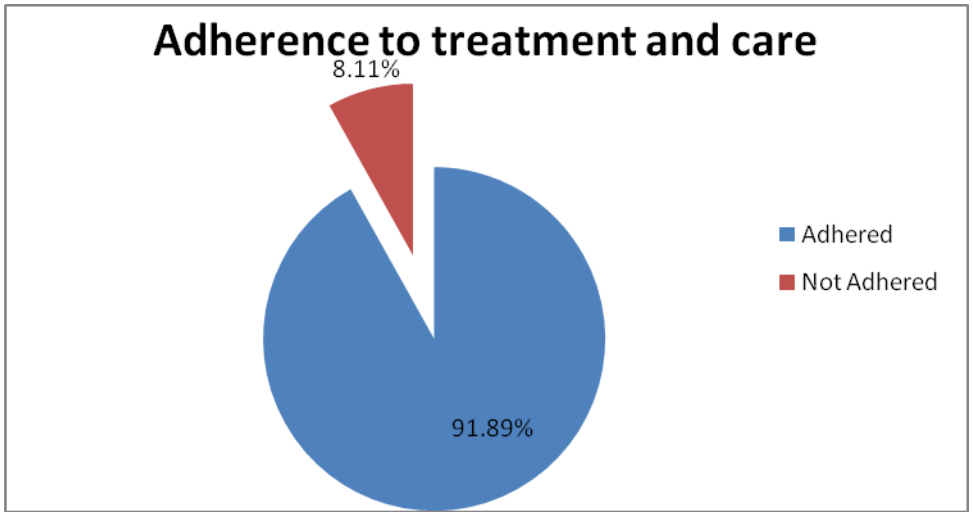
4.3.1 Table of Socioeconomic Characteristics

CHARACTERISTIC	CATEGORY	FREQUENCY	PERCENT
Average monthly income	<=5,000	47	22.17
	6,000-10,000	38	17.92
	11,000-20,000	67	31.60
	>=20,000	60	28.30
Nature of housing	Own house	88	45.13
	Rent house	104	53.33
	Living with relatives/friends	3	1.54

4.4 Adherence to Care & Treatment

Non adherence in this study stood at 8.11% (18) while 91.89% (204) took their drugs consistently. Reasons identified for missing drugs were: work conflict and lack of transportation 20.8% each, forgetting and illness 16.7% each, family/marital conflict 12.5%, side effects, food/ nutrition and stigma 4.2% each. Clinic attendance was also used to measure adherence. Twelve (5.6%) respondents reported to have missed clinic appointments 1 and 2 times in the last 3 months. 20(11.0%) respondents reported to have run out of medication with main reasons identified as lack of transport, 42.9%, illness and family conflict 14.3% each, forgetting, long distance, work conflict and work pressure 7.1% each.

4.4.1 Pie Chart of Adherence to Treatment and Care



Respondents who reported to have been on ARVs for more than 12 months were 138 (63.01%), 6-11 months 51(23.29%) and for less than 6 months 30(13.70%).

4.4.2 Table on duration of ARVS

Duration on ARVs adherence	<6 Months	30	13.70
	6-11 months	51	23.29
	>=12 months	138	63.01

4.5 Community and social support

Most respondents 141(38.7%) reported that they sought assistance from spouses whenever they were in need. 63(17.3%) while the rest sought assistance from counselors, 47(12.9%) from siblings/relatives, 41(11.3%) from parents, 24(6.6%) from church leaders, 20(5.5%) from friends, 19(5.2%) from medical staff and the rest from children and support groups. Slightly more than half 194(51.3%), of respondents had disclosed their HIV status to spouses, 51(13.5%) to counselors, 36(9.5%) to parent, 35(9.3%) to siblings/ relatives , 18(4.8%) medical staff, 6(1.6%) to support groups and 5(1.3%) to community

4.5.1 Table of Community and Social Support

CHARACTERISTIC	CATEGORY	FREQUENCY	PERCENT
Where to go when one has problems	Spouse	141	38.7%
	Church leader	24	6.6%
	Counsellors	63	17.3%
	Parent	41	11.3%
	Children	6	1.6%
	Siblings	47	12.9%
	Support groups	3	0.8%
	Friends	20	5.5%
	Medical staff	19	5.2%
Persons HIV status disclosed to	Spouse	194	51.3%
	Church leader	15	4.0%
	Counsellors	51	13.5%
	Parent	36	9.5%
	Children	13	3.4%
	Community	5	1.3%
	Siblings/ Relatives	35	9.3%
	Support groups	6	1.6%
	Friends	5	1.3%
	Medical staff	18	4.8%
Knowledge on partner's HIV status	Not knowledgeable	1	.5
	Knowledgeable	26	11.9
	Missing	191	87.6

4.6 Sexual risky behaviors

Majority of the respondents 171(78.4%) had 1 sexual partner in the last 3 months, 13(6.0%) had 2 partners, 5(2.3%) had 3 partners, 1(0.5%) had 4 and 10 partners. Those with many sexual partners did not disclose their HIV status to the other partners apart the primary partner.

One hundred and twenty six(57.8%) of the respondents always used condoms, 40(18.3%) used several times while 41(18.8%) never used. Respondents with multiple sex partners mostly never used condoms. There was a significant association between use of condoms and adherence to treatment and care (p-value=0.000) with failure to use condoms increasing odds of non-adherence.

Majority of the respondents (169)(77.5%) had not consumed alcohol in the last one month and those who had, mostly consumed alcohol on weekly basis 17(7.8%). Most 177(81.2%) had never consumed other drugs like tobacco and Khat within the last one month and those who had consumed, did it on daily and weekly basis 5(2.3%) each.

4.7 Faith in Treatment

The majority respondents 206 (97.17%) believed that ARVs help and 149(73.04%) of the respondents could identify or name the ARVs they were using; 75.4% respondents who were able to identify ARVs they were taking adhered to care and treatment Ability to identify the ARVs one was using was significantly associated to adherence to drugs (OR=3.4 p=0.016, CI 1.3 9.5).

4.7.1 Table of Faith in treatment

CHARACTERISTIC	CATEGORY	FREQUENCY	PERCENT
Belief on help from ARVs	Don't believe	6	2.83
	Believe	206	97.17
Name / Identify ARVs being used	Can't identify	55	26.96
	Identify	149	73.04

4.8 Depressive symptoms and mental health

The following depressive symptoms were assessed: 1. Persistent uncontrollable sadness feelings. 2. experienced persistent uncontrollable hopelessness, 3. Need to be alone and loss of interest to what one used to get pleasure. 4. Feelings of confusion 5. Feelings life was too difficult.

As many as 44(18.3%) reported experiencing persistent uncontrollable feelings of sadness. Lack of persistent uncontrollable sadness feelings increased the odds of adherence to care and treatment (p-value=0.002). Those who experienced persistent uncontrollable hopelessness feelings 54(22.9%). 56(23.9%) and 58(24.8%) felt the need to be alone and lost interest in what used to give them pleasure in the previous one month. 56(23.4%) and 54(22.9%) respondents had feelings of confusion and feeling life too difficult respectively. The degree of feeling life is too difficult has had a significant effect on the adherence (p-value=0.025). Feeling life is simple and not difficult increased the odds of adherence to care and treatment. A dummy variable for depressive symptoms was derived by taking the scores of the observed variables. Logistic regression was done to assess the effect of depressive symptoms on adherence. Respondents with depressive symptoms were 1.2 times more likely to have poor adherence to ART (OR=1.2 p=0.001, CI 1.09-1.40). After adjusting for possible confounding effect on gender, the model was not improved chi=0.03 p=0.866.

4.9 Social harm/intimate partner violence

Respondents were subjected to partner abuse by being denied economic support 25(9.6%), physical assault 24(9.2%), verbal and emotional abuse 30(10.9%) and threats or bad treatment 31(12.4%). Respondents who were subjected to partner physical assault and verbal and emotional abuse were more likely to have poor adherence to ARVs (OR=24, p<0.005 CI 8-78). After controlling gender as a possible confounder, respondents who had been subjected to social harm were more likely to have poor adherence to ARVs (OR 25, p<0.005 CI 8-82). A likelihood ratio test that compared two variables social harm and adherence, and social harm and adherence controlling for gender showed no significance (chi=0.13, p=0.72)

4.9.1 Table of qualitative data

Category	*Sub-category*	*Pertinent quote*
Adherence	*Barriers*	*"I cannot get permission to come to the clinic" (male positive)*
		"My wife fears that the ARVs will kill me because I get nauseated and sometimes I vomit, these drugs are so big"(male positive).
	Motivators	*My husband reminds of my clinic* visits *he marks the date on the calendar"(female positive).*
		" You see when I take my drugs I will remain healthy and no body will know I have it if I don't I will die and my relatives will take property from my children so these drugs are really good"
		(male positive)
Belief treatment		*"'one day I heard neighbors discussing my friend who was sick wit HIV, they said that they cannot buy tomatoes from her because she was removing blood from her body and injecting the tomatoes so that other people could get the virus I don't want them t know so I take my drugs(female positive)*
		"Each day I swallow my tablets, if I delay my body reacts and I always feel that there is something that I am missing, these drugs keep me alive I take Teno fovir, Efavirenze and Lamuvidine .
		"My body will remain strong and no one can think I have HIV (female positive).
Intimate partner	*Violence*	*" My partner is very hostile to me ever since learning my HIV status, I feel she wants me to die so that she can take my property she has even disclosed my status to the kids and her parents and since then nobody loves me, she gives bad food and is very rude to me. (Male positive)*

		''We no longer have sex she sleeps with the children in their bedroom and locks the door so that I don't go there, when I ask for sex she gives flimsy excuses like she is tired or sick recently she told me that she was willing to let me look for a HIV positive woma and marry her that is why I drink so hard"(male positive). *"My husband accuses me of infidelity, he keeps calling to ask wher I am or what am doing he beats me up and accuses me of sleeping around with men,"(female positive)*
Depressive symptoms	*Loss of interest* *Poor sleep* *Poor appetite* *Guilt*	*"I have lost interest in sex since I discovered I am positive sometimes I feel that it is the drug that interfere with my desires, husband also rarely ask me to have sex these days, I don't think there is much hope the world is full of darkness" (female* positive*)* *"I don't value anything more, imagine I can't sleep, i don't like food and my husband complains that I am always angry, I shout at my kids and this makes me guilty sometimes I feel like it wouldn't matter much if I died am a burden to these people" (female positive)*

CHAPTER 5

DISCUSSION, CONCLUSION AND RECCOMEDATIONS

5.1 Discussion

5.1.1 Social demographic characteristics

There were more female 130(59.6%) respondents than male participants 88(40.4%) in this study. This compares with the national HIV/AIDS prevalence by gender in Kenya 6.9% females and 4.4% male (KAIS 2012). The highest proportion of the participants 31.7% were aged 18-27 years, this age group also has the highest prevalence of HIV infection.

Some of the respondents were in paid employment 96(44.0%).. This could be partly explained by the fact that Thika is an industrial town where migration from rural to urban setting is high particular in search of employment

Almost 1/3 of the participants had 1-3 children this is lower than the findings of the 2003 KDHS which reported 4.9 children per woman in Kenya (KDHS 2003)

5.1.2 Adherence and treatment

Adherence to ARVs was high in this study (91.89%).This level of adherence compares with findings from other studies conducted locally in Thika 88% (Nyambura, 2008) and another conducted in Nairobi (Wakibi *et al.,* 2011).

Majority respondents 138(63.01%) had been on ARVs for more than 12 months, 51(23.29%) for 6-11 months and 30(13.70%) for less than 6 months. Logistic regression was done on adherence to ART and duration on ART. Respondents who have been on ARVs for more than 12 months were more likely to have poor adherence as compared to those on ARVs for less than six months (OR=2.2, p=0.01 CI 1.2 3.9). This could have been attributed to what is termed *'pill fatigue'*. The main reason reported for poor adherence is work related and missing transport (20.8%). This is collaborated by the respondents in the qualitative arm who said that economics and nature of work that patients are engaged in can make it difficult for them to take the drugs or visit the clinic on their scheduled visits. In particular those working in bars, hotels and long distance truck drivers were most likely to miss their drugs. This is similar to another study in India (Seema, et al ., 2012). Other reasons

given included forgetting and illness (16.7%), family and marital conflict (12.5%) and side effects and stigma (4.2%). Lack of transport (42.9%) was the main reason why participants missed their clinic visits which contributed to inability get their medications.

Conflict (21%) within the family negatively impacted on adherence. According to this study while family support was associated with good adherence, a study conducted in sub- Saharan/ Africa indicated that a patient who receives support feels obligated to adhere to ARVs as a payback to those extending the support so that it may continue to come. (Norma, *et al.*,2009).

Concern about stigma though not very significant (4.2%) appear also to impact adherence in a negative way this finding was similar to views expressed in the qualitative arm *"'one day I heard neighbors discussing my friend who was sick with HIV, they said that they cannot buy tomatoes from her because she was removing blood from her body and injecting the tomatoes so that other people could get the virus I don't want them to know so I take my drugs(female positive)* These findings differ from another study conducted in Nakuru among youth which found that 61% of the respondents felt they were stigmatized. (Wanjiru. K 2012), the difference could partly be explained by the different data collection tools used by each study and this study was focusing on adults.

Lack of resources was a major challenge to adherence, most patients may lack the basic necessities in life particularly money to pay for transport to the clinic for refill of drugs. One might go to out of the way to ensure that there is money to go the clinic. Patients may sometimes borrow money from their relatives which they might end up not paying (Norma C *et al* 2009).

5.1.3 Family and Community Support

Although most of the participants reported living with other people in the house and they also had children there was no significant association to adherence care and treatment.

Respondents were more likely to seek assistance from their spouses 63(17.3%) whenever they had issues. Counselors 47 (12.9%), siblings and relatives 41 (11.3%) were the second preferred choice of support.

Disclosure of HIV to partners was not associated with violence among the majority of the respondents, disclosure of HIV status to others had negative significant effect on the adherence to care and treatment (p-value = 0.001)73.9%.

However another study indicated that disclosure of HIV status has been associated with closeness to the disclosed person, respondents also reported receiving emotional support, financial support and the freedom to use their drugs in the presence of the person they disclosed to without fear79.4% (Gladys Y *et al* 2014)

A significant number of the respondents came on their own to the clinic 140(64%) while77 35% were accompanied by their spouses. Majority of the respondents were reminded to take their drugs by their spouses 192(88.1%).This indicates a high degree of support for the HIV positive patients in management of HIV. Pooling of social resources at the family level appears to aid adherence in a positive way and this can be used as strategy to enhance adherence in local settings.

Most of the patients are not using the conventional adherence aids like pill boxes but report incorporating use of drugs to their daily routine. Fear of other people discovering the HIV status of the patients is a common concern and could be partly explained as a due to HIV related stigma.

5.1.4 Depressive symptoms & other mental health issues

Depressive symptoms (18%) were observed in this study and those presenting with the symptoms were referred to the psychiatric clinic for management and this was significantly associated with adherence levels (p-value=0.002) and 0.25 respectfully. Some respondents in the qualitative arm reported experiencing poor appetite, poor sleep and low moods, being irritated, guilt and feeling that they are a burden to others .

A study conducted in West Indies reported similar findings of moderate to severe depressive symptoms at 17.3% with females recording significantly higher levels of depressive symptoms (W.de La, 2011)

The patients with depression were also more likely to report failing to go to the clinic for their visits. Studies done in Tanzania produced similar findings (Theonest R. *et al.*, 2011)

The degree of feeling life is too difficult had significant effect on the adherence (p-value=0.025). Feeling that life is simple and not difficult increased the odds of adherence to care and treatment.

The respondents who perceived life as being too difficult had a significant effect on the adherence to ARVs (p-value =0.025) while those who were more optimistic about the future increased the odds of adherence to care and treatment.

5.1.5 Social harm/intimate partner violence

Intimate partner violence (10%) was significantly associated with increased odds of non-adherence to ARVS (p-value= 0.028 and 0.017 respectively, patients who were subjected to physical assault, verbal and emotional abuse were more likely to be non-adherent to ARVs, findings in the qualitative arms expressed sentiments which were similar to the quantitative arm where they described that their partners had become hostile to them ever since they discovered their HIV positive status

Physical and emotional violence, being denied sex and being accused of infidelity were some of the common forms of violence meted out to the partners. These findings collaborate with similar ones in Uganda where spouses in discordant relationships tended to physically assault their partners, threaten them verbally and force them into sex without consent. The study further indicates that the violence even though present prior to learning their status increased twice in intensity after knowledge of HIV zero status.(Donath E *et al* 2009*).*

The percentages of violence compare closely with findings of a study conducted at Kenyatta National Hospital, where 8% of the respondents who were sampled from the ANC clinic and at the CCC reported experiencing some form of IPV, psychological violence was the most commonly reported form of violence, sexual violence came second while physical violence was the last (Undie, *et al* 2013).

Couples who are in an HIV discordant relationship may experience difficulties in managing emotional and sexual intimacy because of the fear of transmitting HIV such factors can impact on sexual desire and may result in more relational problems and escalated violence (Widona K et al., 1996).

5.1.6 Support Provided by Clinic /Hospital

All respondents had prior to initiation of ARVs attended preparation sessions at the clinic it was not however possible to determine whether this had any significant impact on adherence or not

Average waiting time at the clinic was 2 hours but this did not have any significant influence in adherence.

5.1.7 Life style and risky behaviors

Clients who reported having more than one sexual partner 51 (21.6%) were more likely not to disclose their status to some of the partners. Condom use was low among participants 86(41.6%). they reported inconsistent or non-usage of condoms at all (18.8%). Condom use was significantly associated to adherence on care and treatment (p-value < 0.005) while failure to use condoms increased odds of non-adherence.

Low levels of consistent condom use were reported among individuals who reported a sexual partner of discordant or unknown HIV status. This observation held for both women and men aged 15 to 64 years. (KAIS, 2012)

Non condom use among people who are HIV positive was been reported in a study in India 33.3%, possible barriers to condom use included depression, alcohol, anxiety and fear of disclosure of HIV status.(Venketsan C *et al* 2010*).* The findings of this study on use of alcohol and other drugs were not associated with poor adherence. This could be attributed to social desirability bias where respondents may withhold information from the researcher so that they may appear compliant in line with the strict instructions that they receive from the CCC staff not to use psycho active substances

Other studies have identified drug and alcohol use as major barriers to adherence and non availability of counseling services for substance abuse as a major barrier to retention and care. (Ashraf, K., 2010).

A study conducted in Kenya by ICAP and CDC reported similar results 18% used alcohol 13% were non problem drinker's users and 5% harmful users (Harriet B et al 2011).

5.1.8 Confidence in Treatment

Respondents had faith and believed that ARVs help 202(92.7%). Only 143(65.6%) of the respondents could identify or name the ARVs they were using. Ability to identify the ARVs one was using had significant effect on the adherence to drugs (p-value=0.003). 74.3% respondents who were able to identify the ARVs they were taking adhered to care and treatment, implying that failure to identify ARVs one was taking increased the odds of non-adherence. The personal motivators and confidence in ARVs that make the patients adhere well were identified as an attempt to maintain good health, keep fit and remain alive to care for the children.

Low rates of adherence have been found to be related to a patient's disbelief about the benefit that they may derive from a certain drug they are taking. Other studies have been documented about the positive association between beliefs about medication efficacy and adherence in conditions like ashma, diabetes and depression (Horne et al., 2006).

Personal motivators and confidence in ARVs that make the patients adhere well were identified as an attempt to maintain good health, keep fit and remain alive to care for the children. Gains observed overtime with usage of ARVs can be a motivator to adherence since patients will perceive that their current good health is dependent on the medication (Cauldbeck et al., 2009).

According to sentiments expressed in the FGDs ARVs will enable patients to stay and look healthy so that others do not know about their HIV status. For others the drugs will prolong their lives so that they are able to bring up their children and continue to run their businesses.

5.1.9 Limitations of the study

The method of assessing adherence was single and it is inadequate, two or more methods like reviewing patient's files and looking at their CD4 results could have provided a better picture. Self reported adherence has a lot of limitation because it is prone to the social desirability bias. This study utilized self report for assessing adherence, as it is the most commonly used method in resource scarce settings because of convenience, the method has many challenges with reliability because

questions might get influenced by patients desire to provide socially acceptable answers or mere forgetfulness.

5.2 Conclusions

Optimum adherence is necessary for viral suppression leading to improvement of the health of patients, it is important to address the various barriers identified in this study.

Understanding psycho-social challenges faced by HIV positive patients is necessary in order to deal effectively with HIV. The findings suggest that social economic and psychological dimensions of the patients negatively affected adherence to ARVs, hence the need for policy makers to design appropriate interventions that can address these.

The results also support the need for additional measures for adherence that are cost effective for use in resource scarce settings. Intimate partner violence was high and there is need to identify and support survivors in order to enhance their quality of life

5.3 Recommendations

Based on the study outcomes the following recommendations can be made

Ongoing assessment of psychosocial challenges among HIV discordant couples may help to inform intervention programs.

Service providers may need to familiarize themselves further in order to provide relevant management interventions

Further enquiries may be necessary to fully understand the lived experiences of discordant couples to better understand their needs and concerns.

The suboptimal level of adherence may need to be addressed in order to maximize the gains of ARVs use in viral suppression and reduction of HIV transmission.

Intimate partner violence emerged as a critical and urgent concern that may require a radical assessment and management with the existing intervention.

APPPENDICES

APPENDIX1: Informed Consent Form

Study title:

Psychosocial factors associated with antiretroviral therapy adherence by discordant partners exposed to the Human Immunodeficiency Virus

PART A

Introduction

Mr Mwathi Njoroge of University of Nairobi is conducting a study to establishpsychosocial factors associated with antiretroviral therapy adherence by discordant partners exposed to the Human Immunodeficiency Virus and want to offer you the opportunity to be part of it.

Study procedures

Being in the study is your choice

This consent form gives you information about the study, the risks and benefits and the procedures that will be explained to you. Once you understand the study and if you agree to take part, you will be asked to sign or make your mark on this form and you will be given a copy. Before you learn about the study, it is important you know the following:

Your participation in this study is entirely voluntary.

You may decide to withdraw from the study at any time, without facing any consequences.

Purpose of the study

The purpose of the study is to establish psychosocial factors associated with antiretroviral therapy adherence by discordant partners exposed to the Human Immunodeficiency Virus

The study will involve:

If you are willing to be part of the study, i will ask you some questions about you and how you take ARVs including barriers that you face or factors that help you to adhere to these drugs

Risks and/or discomforts

You will be requested to avail yourself for group discussions at a place that you are most comfortable. You may become worried or anxious about discussing HIV matters. I will make every effort to protect your privacy and confidentiality while you are participating in the study. Full or total confidentiality may not be guaranteed because there is a possibility that others may learn about your status during the group proceedings but every participant will be requested to maintain confidentiality during the discussions.

You might feel uneasy while discussing matters to do with taking of ARVs, alcohol use and finding out that you have depression. You will be referred for the necessary treatment should the need arise.

Benefits

Even if you do not directly benefit from this study you will know that your participation in the study will help to understand factors that are associated with adherence to these drugs. This will help us to understand how we can help patients to use their drugs as instructed leading to improved quality of health and lowering the risk of HIV transmission in future.

Cost

Being in the study will be done at no cost to you and no money will be paid to you for participating in this study

Privacy and confidentiality

Every effort will be made to keep the information you provide confidential. You will be identified only by a code and.

If you ever have questions about this study contact: **Principal Investigator**, Mr Mwathi Njoroge of University of Nairobi. Cell phone no: 0721415729 Email: mwathinjoroge@yahoo.co.uk

Statement of consent and signatures

I have read this consent or had it read to me ,I have discussed the information with study staff .my questions have been answered .I understand that my decision to whether or not to take part in the study is voluntary. I understand that if I decide to

answer the questions I may withdraw any time .By signing this consent I do not give up any rights that I have as a research participant.

----------	----------	----------
Participant name	**participant signature/thumb print**	**date**
----------	----------	----------
Name of the student	**signature of the student**	**date**
----------	----------	----------
Witness name	**witness signature**	**date**

APPENDIX2: Interviewer's script

OBJECTIVE

Psychosocial barriers related to adherence to ARVs among discordant couples in Thika District.

Interviewer's script

Thank you for responding to our request for volunteers to conduct this study. You may interrupt me at any point to ask questions. I am currently a student at the University of Nairobi taking a post graduate course in clinical psychology. Sharing your experiences will provide us with information that may be of help to couples in the community and improve their physical and psychological health. Am interested in understanding the factors associated with adherence to ARVs as well as specific psychological issues that may affect those in discordant relationship.

We shall collect information from a total of 32 individuals in a partnership such as yours, who have different HIV test results. Your name and personal identifiers will not be recorded in the final report.

I appreciate hearing about those experiences you feel comfortable sharing. We ask that you only use a number to identify yourself .We shall respect each other's privacy you may choose not to answer any of questions. The information will be identified using a code and not your name the code is a number that will be allocated to you. The link between your name and code will be kept in a secure location under lock and key only the student will have access to it.

A tape recorder will be used to record our discussions the tape will be kept under lock and key. The information will be put into written format with only the code but not your name on it. The tape will be destroyed as soon as we complete writing down the information from the tape.

Thank you all for accepting to share your experience so that we can be able to improve adherence. I estimate this will take one to one and a half hours. Please feel free to ask questions at any point of the discussions and remember there is no right or wrong answers.

APPENDIX3: Focus Group Guide

Introductions& Ice Breaker

What have been your experiences in taking ARVs

Topic 1: COMMON barriers

What are some of the most common barriers to adherence to ARVs among HIV positive patients?

Possible probes:

1)Stigma 2)Alcohol 3) Lack of support from partner 4)Conflict within relationship 5)Psychological /emotional factors i.e. stress 6)Lack of food 7)Failure to attend clinic 8)Poverty, accompanying patient to the clinic 9) Reminding patient to take drugs 10) Not disclosing status 11) others(specify)

Topic 2: personal factors

What motivates you to take your drugs? And what may hinder you?

Possible probes: 1) Personal health/ wellbeing 2) To live longer 3) Take care of the family 4) Keep the relationship flourishing 5) Alcohol 6)Losing hope in life 6) Feeling unappreciated

7) Being discriminated 8) others (specify)

Topic 3 *drug factors:* Are there factors that make it difficult to adherence to drugs?

1)Pill burden 2)Side effects 3)Fear 4)Stigma 5)cost 6) fearing one will die soon 7) ARVs don't work 8 others(specify)

Topic 4: Facility based factors *suggestions for improving adherence*

What factors about the facility may contribute negatively and positively to adherence to ARVs***?***

Possible probes: 1) Distance from home to facility 2) Attitude of the staff 3)Waiting time 4)Perception on support from staff 5)Availability of counseling services 6)Peer support from other patient 7)Does patient attend support group 8) Others(specify)

What are the HIV discordant relationship issues that you feel may have some bearing to adherence?

What are your suggestions for improving adherence to ARVs among those in discordant relationships?

APPENDIX4: Questionnaire

PSYCHO SOCIAL QUESTIONNAIRE

1. Gender: ☐ Male ☐ Female
2. Years completed in school: _____
3. Occupation: _____
4. Age: _____

Section 1: Family and Community Support

1. How many people live in your house including you? ☐☐

a. How many are HIV positive besides you? ☐☐

☐ Don't know ☐ Not tested

2. How many children do you have or are you taking care of? ☐☐

a. How many are HIV infected? ☐☐

Who do you go to when you have a problem?

Spouse ☐ church leader ☐ Counselors ☐ Parent ☐ Children ☐ Community Volunteers ☐ Siblings/Relatives ☐ Support groups ☐ Friends ☐

Others (specify) _____

3. Have you disclosed your HIV status to anyone in this support system?

Spouse ☐ church leader ☐ Counselors ☐ Parent ☐ Children ☐ Community Volunteers ☐ Siblings/Relatives ☐ Support groups ☐ Friends ☐

Others (specify) _____

4a. Do you know the HIV status of your partner ? ☐ Yes ☐ No

5. If you have not disclosed, please tick all reasons that apply:

☐ Stigma ☐ Fear of Violence or Abuse ☐ No One Whom you Trust ☐ Fear of Abandonment ☐ Feeling guilty or responsible ☐ Others (specify)_____

6. How long have you been on ARVs?

☐ Currently on ART ☐ Less than 6 months ☐ 6-11 months ☐ 12 months or more

SECTION II: Assessing Adherence to Care & Treatment

7. How many ARV doses have you missed in the last one week? ☐☐ Or ☐ None

8. How many ART doses have you missed in the last one month? ☐☐ Or ☐ None

9.What made you miss ARVs?

Forgot ☐ Work conflict ☐ Sharing medication ☐ Side effects ☐ lack of transportation ☐ Drugs not available at pharmacy ☐ Feeling unwell Inability to pay for consultation fee ☐ Food/nutrition ☐ Others (specify)_____

10 How many clinic appointment have you missed in the last three months? ☐None

11 Have you ever run out of medication? ☐Yes ☐No

If yes, what led to the run out?

☐ No available transport ☐ Felt good or better ☐Family member was ill

☐ Forgot ☐ Long distance to the clinic ☐Shared drugs with others

☐ Too sick to come to clinic ☐Others(specify)_____

SECTION III: Lifestyle and risky behaviors

12 How many sexual partners have you had in the last three months? ☐☐

13 Have you ever disclosed your HIV status to any other sexual partner? ☐Yes ☐No

If yes how many of your partners have you disclosed to? ☐☐

14 How many times in the past month have you used a condom when engaging in sexual practices? ☐Never ☐Sometimes ☐ Always ☐other_____

15 In the past month, have you consumed any drink containing alcohol? ☐Yes ☐No

If yes, how often have you consumed alcohol? ☐Every day ☐Once a week

☐ Once this month ☐Others(specify)_____

16. In the past month, have you used any drugs? ☐Yes ☐No

If yes, how often have you used psychoactive drugs?

☐Every day ☐Once a week ☐Once this month ☐ Others(specify)_____

17. Do you use alternative medication? ☐Yes ☐No

If yes how often? ☐Within the last month ☐7-12 months ago ☐1-2 months ago

☐3-6 months ago ☐others(specify)_____

SECTION IV: Belief in Treatment

18. Do you believe that ARTs are helping you? ☐Yes ☐No

others(specify)____

19.Can you name/identify the ARTs you are taking? ☐Yes ☐No

SECTION V: Socioeconomic characteristics

20. What is your average monthly income? ☐0-5000 ☐5000- 10,000

☐11,000- 20,000 ☐ over 25,000.

21. What is the nature of your housing? ☐Own home ☐Living with relatives

☐Rent house ☐Others (specify)_____

22. How far away from the clinic/hospital do you live? _____ kms

23.How long did it take you to get to the clinic/hospital? ☐☐ Minutes ☐☐Hours

SECTION VI: Support Provided by Clinic /Hospital

24.Did you participate in an HIV/ART structured treatment preparation session before you started taking your ARTs? ☐ Yes ☐ No

25.Who accompanies you to the hospital/clinic? ☐ Spouse ☐ Friend ☐ Mother ☐ Father ☐ Others (specify)_____

26.What facilitates in your ARVs adherence?

☐ Consistent reminders (i.e. alarm clock, radio) ☐ Pill box) ☐ Support groups ☐ Clinic visits ☐ Family support ☐ Others (specify)_____

27.What role does your partner play in helping you to adhere? ☐ Remind ☐ Home visit from CHW/CHV ☐ HIV/ART Educational ☐ Others (specify)_____

28. Have you been a victim of discrimination because of you HIV status? ☐ yes ☐ no

29. Has your partner treated you unfairly or blamed because of your HIV status?

☐ Yes ☐ No

30. Do you have any fears about other people knowing your HIV status? ☐ Yes ☐ No

31.What is your average waiting time at the clinic? ☐☐ Minutes ☐☐ Hours

SECTIONVII: Depression and Mental Health

32. In the past month, have you had persistent feelings of sadness that you can't just control? ☐ Always ☐ Sometimes ☐ Never

33. In the past month, have you had persistent feelings of hopelessness that you can't just ☐ control? ☐ Always ☐ Sometimes ☐ Never

34.How often do you feel the need to be alone? ☐ Always ☐ Sometimes ☐ Never

35.In the last month, have you lost interest in what used to give you pleasure?

☐ Always ☐ Sometimes ☐ Never

36. In the past month, how often have you felt confused?

☐ Always ☐ Sometimes ☐ Never

37.How often do you feel that life is too difficult? ☐ Always ☐ Sometimes ☐ Never

Social harm/intimate partner violence

38. Has your partner subjected you to any of the following ;

Denied you economic support ☐ yes ☐ no

Physically assaulted you ☐ yes ☐ no

Verbal and emotional abuse ☐ yes ☐ no

Threatens , frightens, or insults you or treats you badly ? ☐ yes ☐ no

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