ACCEPTABILITY OF ANTIRETROVIRAL DRUGS AMONG ADULTS LIVING IN CHAWAMA, LUSAKA

By

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ABSTRACT

Acceptability of Antiretrovirals (ARVs) has been found to be associated with several factors. In this study we investigated the level of willingness among adults living in Chawama and factors likely to be associated with willingness to taking ARVs

This was a cross sectional study. Only eligible adults 18 years and above were recruited by a simple random sampling. A structured questionnaire was used to collect data socio-demographic and other factors likely to influence willingness The Chi square test was used to determine association between variables of interest and multivariate analysis was performed to determine predictors of willingness

Overall (n=409), 52.8% females and 46.9% males participated in the study. The non response rate was less than 1%. Overall (n=409), 52.8% females and 46.9% males participated in this study. The non response rate was less than 1%. A high level of willingness was observed with more than 50% of participants willing to take ARVs if they were found legible for ART. The mean age of participants was 31 years (SD±11.60). Some of the key factors that were found significantly associated with willingness were, the aspect of being male or female [OR: 2.27 (95%CI, 1.10 - 4.70)] with females being more likely to be willing than males, the perceived effectiveness of ARVs [OR: 3.50(1.71 - 7.82))], the need for consent to begin ARV treatment [OR: 1.30(95% CI, 1.40-2.72)] with females being more likely to needing consent than men, and fear of discrimination [OR: 2.47(95% CI,1.22 – 5.00)]

A high willingness to take Antiretroviral drugs among community members was observed but there is need to increase intervention programs that promote acceptability and uptake of ARVs. Furthermore stigmatizing attitudes, gender and socio-cultural influences towards people taking ARVs still persist and interventions to reduce these influences are needed.

DECLARATION

I, **Sharon C Munthali** hereby declare that this research material being submitted for the Master of Public Health is an original piece of work produced by myself except for the references or quotations indicated where possible. It has not been submitted either wholly or in part for any other degree and is not being currently submitted for any other degree at this or another University.

Signature……Date……

(Student)

CERTIFICATE OF COMPLETION OF DISSERTATION

I, **Sharon C Munthali** hereby certify that this dissertation is the product of my own work, and in submitting it for my Master of Public Health Programme, further attest that it has not been submitted in part or in whole to another University.

Signature…….. Date…….

(Student)

I…… having supervised and read this dissertation, confirm that the work has been completed satisfactorily and is ready for presentation.

Signature…… Date……..

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CERTIFICATE OF APPROVAL

The University of Zambia approves this dissertation of **Sharon C Munthali** in partial fulfillment of the requirement for the award of the Master of Public Health Degree by the University of Zambia.

Signature…..…… Date……..

Examiner I

Signature…….……Date……..

Examiner II

Signature……...…… Date……..

Examiner III

DEDICATION

To God be the glory, honor and power for His divine guidance throughout my MPH programme.

To my lovely daughter Grace Bwakya who endured my absence from home during my study

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ABBREVIATIONS

ART	Antiretroviral therapy
ARVs	Antiretroviral
HIV	Human- immunovirus
HAART	Highly Active Antiretroviral Therapy
TB	Tuberculosis
VCT	Voluntary Counseling and Testing
UNAIDS	United Nations Acquired Immuno Deficiency Syndrome
PLWHA	People Living With HIV/AIDS
PMTCT	Prevention of Mother to Child Transmission
UTH	University Teaching Hospital
W H O	World Health Organization

CHAPTER 1: INTRODUCTION

1.10 Background

Antiretrovirals (ARVs) are drugs used in the management of HIV/AIDS. The primary goal in HIV/AIDS management with the use of ARVs is to improve the health and prolong the life of the HIV infected child or adult thereby providing a new life and hope for people living with HIV/AIDS and the community at large. Continuous intake of ARVs reduces the rate of progression of HIV to AIDS or death (Badri et al. 2004). However, not everyone readily accepts the use of these drugs. Acceptability of these drugs by individuals or community has been found to be affected by various factors which inturn affect their uptake and consequently overall management of HIV/AIDS disease (Fox, Mazimba et al 2010).

The various factors surrounding acceptance and uptake of ARVs delay the progress of getting more people on ART and prevention of new HIV infections. Getting more people on ART and prevention of new infections are priority areas for African countries if they are to get ahead of achieving the goal of Universal access (UNAIDS & WHO 2008).

1.20 Statement of the problem

Zambia carries one of the highest burdens of HIV/AIDS in the world. Approximately one million Zambians are living with HIV/AIDS of which over 300,000 are in need of ART. (MOH 2008) At the end of 2007, 163,965 people were on ART (NAC 2008).

Despite the HIV awareness (99% with more than 73 and 74 % of women and men knowing that the ABC (Abstinence, being faithful and use of condoms) are effective prevention measures in reducing the chance of being infected with HIV) and a 100% country deployment of ART Zambia still records a high mortality due to HIV/AIDS. In 2007 Zambia recorded 97,494 adult HIV deaths and 8283 pediatric HIV deaths (MOH 2008). This has consequently lead to an increase in the number of orphans. The increase in number of infants being born with HIV cannot be ignored, the number increased from 6440 in 2006 to 15631 in 2007 (MOH 2008). This is despite the 100% deployment of PMTCT. In contrast the number of pregnant women testing positive has decreased from 21.2% in 2005 to 17.5% in 2007. These figures may indicate that a proportion of pregnant women are not attending PMTCT.

Adherence to ARV medications is very important. Over 95% adherence is required to prevent drug resistance. Zambia records a high adherence rate of about 85% but only 50% of clients in one programme remain in the programme after 36 months on treatment (Zuumond M 2008). In 2008 Lusaka district recorded 28% (17,115) drop outs and 3000 deaths out of 61,209 who were on ART (LDHO&CIDRZ 2008).

Despite high levels of HIV awareness, stigma and discrimination is still being perpetuated in some communities. HIV infected persons may be rejected by their family and friends or may suffer job loss. Other persons particularly women may be beaten by their partners if they disclose their HIV status and may be refused to seek treatment (MOH 2008).

Competing remedies to ARVs such as traditional medicine pose a challenge to correct and quick management of HIV/AIDs. 80 per cent of the health delivery systems in Third World countries, which include Zambia, constitute traditional medicine (WHO 2003). Many African countries are using herbal remedies in the management of HIV/AIDS. In Zambia there are more than 40,000 traditional healers whereas western doctors are only estimated at 1,000 (Siulanda N 2007). It has been observed that many patients seek traditional remedies and healing before seeking care at health centers (MOH 2008). These competing remedies have tremendous effects on a patient's decision to seek medical care and healing

Recently Zambia has recorded anti-social behaviors such as child molestation and incest. The perpetrators of this device hope to be treated/cured from HIV/AIDS (MOH 2008) These activities have been happening at the time when free ART services has been deployed country wide. Perceptions of people towards ARVs need to be sought to understand such behaviors.

ARVs have provided a new life and hope for PLWHA and future patients however, several factors influence their uptake and acceptance. Studies have shown that community perception and acceptability greatly influence uptake and enrollment onto ART programme. Therefore, there is clearly a need for enhanced, comprehensive information, sensitization and education for communities and society on the realities of ARV.

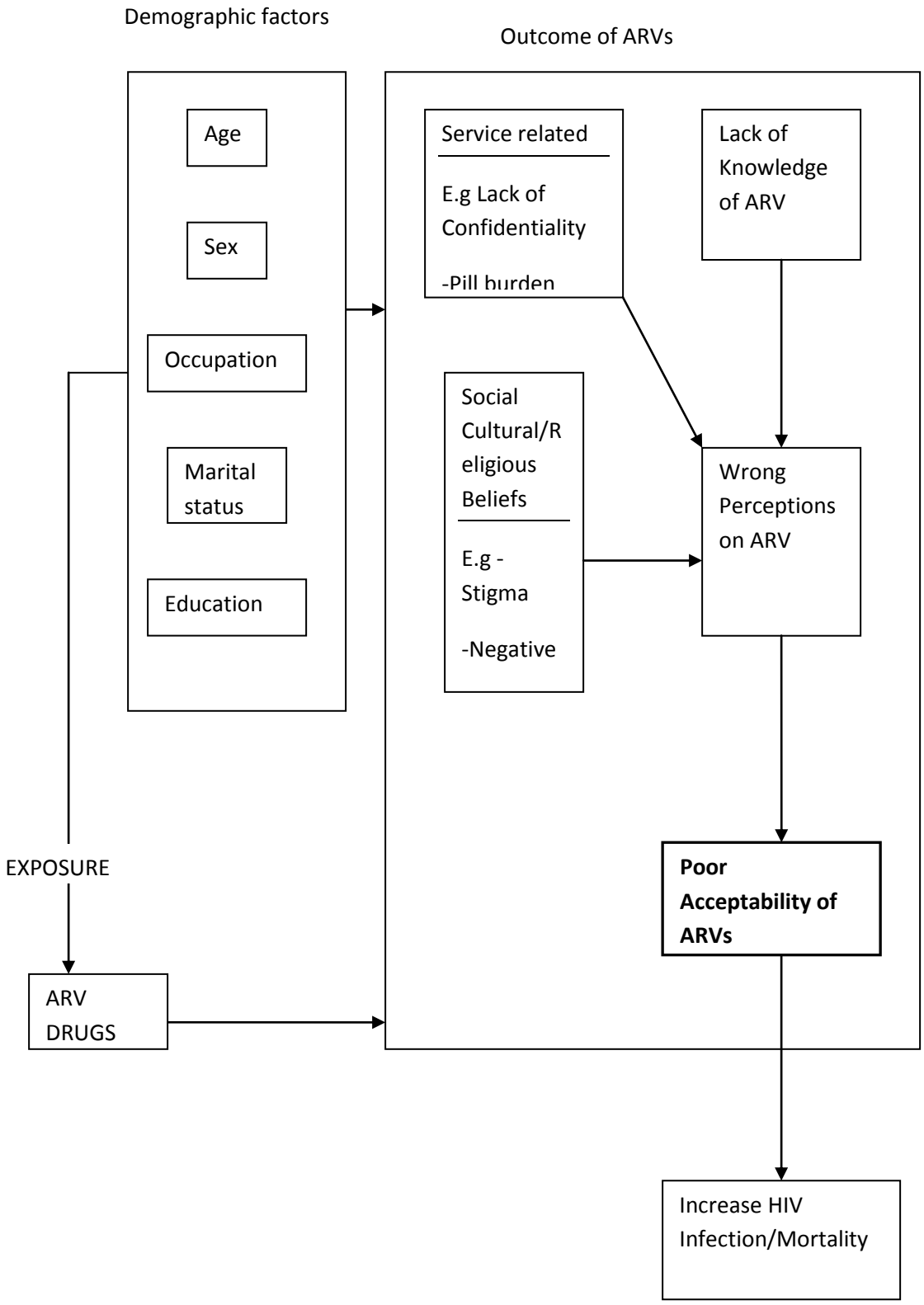

Figure 1: Problem analysis diagram showing factors that may influence acceptability of ARVs

Poor acceptability of Antiretrovirals has been found to be associated with several factors which have in turn affected their uptake and consequently increased HIV/AIDS morbidity and death. As observed from the conceptual frame work ARVS (Exposure) have been readily made available in all public institutions free of charge for all patients found legible for ARV treatment however there are barriers to their acceptability (outcome). These barriers can be at individual level such as having wrong perceptions and lack of knowledge on ARVs which are aggravated by community barriers such as stigma, negative gender roles, cultural influences and poverty. Service related factors such as the lack of confidentiality at health centers may discourage turn outs for ART. Other issues arise from the drugs themselves such as long life treatment which can be cumbersome and some observed side effects. All these factors can be confounded by demographic factors such as age, sex, occupation, married or not married and level of education attained.

1.30 Research question

To what extent are adults living in Chawama willing to take ARVs if they were found legible for ART?

1.40 Justification

Prevention of the development of HIV into full blown AIDS and death by use of ARVs is the cornerstone of HIV/AIDS management. Considerable expansion of ART programme which has occurred rapidly in Zambia needs to be accompanied by community awareness campaigns and education if acceptance, uptake and adherence are to be enhanced.

Traditionally ART efforts focus on HIV/AIDS patients forgetting the general community and future patients. Perceived unwillingness to take ARVs may influence future non acceptability. This study therefore explored factors influencing community willingness to participate in ART. Study findings on acceptability of ARVs among adults in the Zambian general community are limited. The information the study generated would aid policy makers and HIV care providers in improving programmes aimed at improving ART and reducing mortality due to HIV/AIDS. The study would also generate new information that would be of use to the body of science.

1.50 Review of literature

1.51 Introduction

There is a considerable concern over the use of ARVs in treatment and management of HIV/AIDS and its acceptance by the community (Tsiko S 2004). ARVs have brought a glimmer of hope to HIV and AIDS patients, yet there are still some challenges related to emerging anti-retroviral therapies (Tsiko S 2004) Community acceptance of ARVs in highly stigmatized resource- poor settings is a slow process that demands provision of ARVs to be accompanied by a targeted awareness campaign (Ilako & Kimura 2004). Research studies that have been conducted worldwide, demonstrate that acceptability of ARVs affect their uptake. Several similar studies have been conducted in Zambia though with much emphasis on adherence to ARVs.

A study conducted in Zambia in 2006 to assess adherence to ARVs by WHO research team identified that the barriers to adherence and acceptance to ARVs were consistent with factors cited in the existing adherence literature from both developed and developing nations. Barriers identified were side effects, hunger, stigma, lack of accurate information and unfamiliarity with the implications of having a chronic disease (WHO 2006). Another study conducted in 2004 to examine responses to the roll out of ARVs revealed that color symbolism of" traditional medicine' has some influence on ideas about ARVs suggesting possible 'meaning responses' that could affect treatment outcomes. It also showed that respondents become concerned when colors, shapes and side effects of ARVs differ from expectations. Sustainability of the ARVs treatment programmes was another concern demonstrated by the respondents (Schumaker & Bond 2008).

In an another similar study conducted in South Africa on critical barriers to community participation in HIV and antiretroviral services, poverty and stigma were found to be significant barriers to accessing HIV and AIDS care and treatment services in the public health sector. Socio-economic constraints (e.g. travel costs), human resource shortages and perceptions that access to treatment is fraught with difficulties and delays and contribute to the poor acceptability and responsiveness of health services (Padarath et al. 2006). Similar studies conducted in Malawi and Zimbabwe demonstrated that ART acceptance was low and associated with economical factors and perceived consequences of being positive.

1.52 ART related factors with possible influence on acceptability

Taking ARV therapy requires a long-term commitment from the patient. Correct and consistent use is required for the drugs to be effective. ARVs have side effects that can make them difficulty for some patients to take. Treating someone too early may lead to unnecessary toxicity and premature development of drug resistance, while treating too late can increase the risk of morbidity, mortality and treatment failure (MOH 2007). ARVs once commenced are taken lifelong if AIDS is to be a manageable chronic illness. It requires a lifelong relationship between client and the health team. The therapy involves lifelong visits to the health centre, adjustment of drug dosage or the discontinuing of ARVs while taking other medication, constant reviews and monitoring. (Schumaker & Bond 2008) This pill burden associated with HAART has great influence on people's future acceptability of ARVS. Thus the decision about when to start therapy by the patient is a very critical aspect as far as proper management of HIV/AIDS is concerned.

A study conducted in Canada on acceptance and uptake of ARVs showed, high rates of anticipated barriers to ARV's such as a fear of side-effects (60%), not knowing enough about the treatment (59%), perception that they could not adhere to daily treatment (42%), and a fear that others would know their HIV status (42%) and 75% felt it would be acceptable to have their medications delivered to their home (Shannon K, Bright V, et al 2004).

1.53 Improved health and functional status coupled with longevity

The increasing availability of antiretroviral drugs has provided a new life and hope for people living with HIV/AIDS and .would be patients. But for many patients in sub-Saharan African countries, the devastating physical effects have been replaced by debilitating psychological conditions (stigma): social isolation and the condemnation of their family, friends, and society. Such stigma has lead many not to disclose their status, a barrier to ARV acceptance and adherence (Blackstone O 2005).

Numerous clinical trials as well as observational data (i.e. studies from clinical practice) have demonstrated beyond reasonable doubt that the benefits of antiretroviral treatment for people with HIV/AIDS far outweigh their risks. ARVs interfere with the ability of the virus to replicate or

reproduce in the body thereby minimizing damage to the immune system and consequently reducing occurrences of opportunistic infections (BIPAI 2006).

Post exposure prophylaxis (PEP)

Administering ARV drugs to uninfected persons soon after exposure to HIV can prevent infection. PEP is usually administered after accidental exposure. Accidental exposure includes exposure to infectious body fluids such as visible blood, vaginal secretions, semen, pericardial, cerebral spinal, amniotic, peritoneal and synovial. Some of the people at risk include health workers, accident victims, sexually abused persons etc. WHO standard precautions recommend that all individuals exposed should be treated as thou they were infected with HIV or other pathogens. ARVs have shown to suppress viral replication more completely (BIPAI 2006). Non acceptance of the use of ARVs in situations of accidental exposure to HIV may contribute to rise in HIV/AIDS infections.

Prevention of Mother to Child Transmission

Mother-to-child transmission (MTCT) is responsible for 5-10% of the total of new HIV infections each year in many developing countries, with more than 500,000 children being infected each year (UNAIDS (1998). The introduction of antiretroviral (ARV) drugs for the prevention of MTCT has however dramatically reduced rates of transmission among non-breastfeeding mothers in many developed countries. Significantly mother-to-child transmission is reduced by use of ARVs and the avoidance of breastfeeding (BIPAI 2006). Poor acceptability of ARVs by mothers for the purpose of preventing transmission of the HIV infection to the new born has drastically contributed to the rise of HIV/AIDS infections among children in Zambia (MOH 2008).

1.54 Perceptions on ARVs

Several studies have demonstrated the many challenges and factors affecting acceptability of ARVs and ART as a whole. Some of the documented challenges preventing a higher rate of uptake and acceptance include prevailing stigma relating to HIV/AIDS, drug sharing between clients, competing “alternative therapies” and misconceptions about ARVs (Ilako & Kimura 2004).

Alternative remedies to HIV/AIDS such as traditional medicines and spiritual healing have also been found to influence community perception and acceptability of ARVs. Countries such as Zimbabwe, Malawi, South Africa, Nigeria etc have had their herbal preparations used for management of HIV/AID evaluated by W HO. And these herbs were found to show encouraging results (WHO & AFRO 2001). Zambia has more than 40,000 traditional healers (diviners,

herbalists, spiritualists and traditional birth attendants) and about 1,000 medical doctors a situation that has promoted the use of herbal remedies in treatment of most ailments including HIV/AIDS (Siulanda 2007). Many patients seek traditional remedies and healing before seeking care at health institution (MOH 2008). Other traditional healers also claim to cure HIV/AIDS, for example in 2007, the Gambian President Yahya Jammeh said that he could cure HIV/AIDS in three days (Siulanda 2007).

Cultural beliefs and perceptions towards ARVS cannot be ignored. Reports show that despite major advances in the long-term treatment of patients with HIV infection, there still exist socio-cultural barriers to care. Many cultural factors affect and may affect treatment and individual acceptability of treatment with antiretroviral therapy such as religious stigma; domestic violence; socioeconomic constraints, including literacy, living conditions, nutrition, presence or absence of family, and social support networks; psychiatric disorders; and pregnancy (Willard & Angelino 2008). Incorporating knowledge of these socio-cultural differences into and modifying plans for prevention, care and support is therefore very critical. The MOH in Zambia also recognizes that local and traditional beliefs and practices have a tremendous effect on a patient's decision to seek medical and on adherence to ARV therapy (MOH 2008).

1.60 Global HIV/AIDS prevalence

It is estimated that 3 million people worldwide were newly infected with HIV in 2007 and 2/3 of these infections occurred in SSA (UNIADS 2008). It was also estimated that 30.6 – 36.1 million people globally were living with HIV/AIDS. Approximately 11,200 new infections occur every day with over one half of these infections occurring in women and over one half in youths aged 15 – 24 (MOH 2008).

1.70 Regional HIV/AIDS prevalence

Sub-Saharan Africa remains the region in the world most heavily affected by HIV. There are about 22 million [20.5–23.6 million] people living with HIV in the region. In 2007, the region accounted for two thirds (67%) of all people living with HIV and for three quarters (75%) of AIDS deaths globally. HIV/AIDS has continued to be the leading cause of death in Africa. The nine countries in Southern Africa continue to bear a disproportionate share of the global AIDS burden with 35% of HIV infections and 38% of AIDS deaths occurring in the region.

1.80 HIV/AIDS pandemic in Zambia

Zambia is a landlocked country south of the equator in southern Africa. It has an area of 752,600 sq km and a population of 12.1 million people growing at 2.9% per annum (MOH 2008). Zambia in southern Africa has one of the world's most devastating HIV and AIDS epidemics. More than one in every seven adults in Zambia was living with HIV and life expectancy at birth was 42 years (NAC 2008). The HIV prevalence in the general population was high with 16% of the population aged 15-49 years being HIV positive. 50% of the population is made up of youths below the age of 25 (CSO 2003). In 2007 an increase in HIV infections was recorded among youths 15 -24 years from 4.6% in 2001/2 to 6.5% and about 8% of boys and 17% of girls aged 15-24 were living with HIV(MOH 2008). Approximately 39.5% of babies born to HIV positive mothers ware infected with the virus (MOH 2005).

HIV transmission in Zambia is primarily through heterosexual contact. This mode of transmission is exacerbated by the high prevalence of STIs, poor socio-economic status of women and high-risk sexual practices. MOH (2005b) The Zambian Government, UNAIDS and other cooperating partners were working to build on HIV prevention results and encourage the implementation of combination HIV prevention as a priority approach – selecting the right mix of behavioral, biomedical and structural HIV prevention actions and tactics to suit epidemics and the needs of those most at risk.

1.81 Social economic impact of HIV/AIDS in Zambia

The HIV/AIDS pandemic has led to serious negative economic impact on many sectors of the country. It is a serious threat to Zambia's social and economic development. (CSO 2007) The socioeconomic impact in Zambia is enormous because the most affected are individuals at the peak of their productive and reproductive period. HIV affects both the privileged and underprivileged; infection rates are very high among wealthier people and the better educated. However, it is the poorest that are least able to protect themselves from HIV or to cope with the impact of AIDS. (NAC 2008) 50% of hospital bed spaces are occupied by patients with HIV/AIDS related illnesses. (NAC 2004) This has lead to an increased health budget due to long hospital stay and expensive drugs to treat opportunistic infections. In 2007 Zambia recorded an increase in

HIV/AIDS spending by 48% from US$140,566,964 in 2005 to US$207,908,045 in 2007 (MOH 2008:13).

The family has been economically affected too. Families have been destabilized due to death of one or both parents and consequently this has led to an increase in number of orphans. Zambia has an estimated number of 1.2 million orphans of which 75% are estimated to be orphans due to HIV/AIDS. (MOH 2008) A large number of these orphans are forced to fend for themselves on the streets, creating another socio-economic problem for the country. In combination with a high dependency ratio (0.9) and high unemployment, HIV and AIDS is a significant challenge for Zambia (MOH 2008).

1.82 Introduction of ARVs in public health institutions in Zambia

The Zambian Government after recognizing that Highly Active Antiretroviral Therapy (HAART) can delay the progression of HIV/AIDS, allowing people living with the disease to live longer, healthier and more productive lives than would be without it, made a decision to make ART services widely available in public institutions to all citizens in 2004. In 2005 free ART was introduced. PMTCT initiative was earlier launched in 1999. (MOH 2007) Provision of free treatment has been made possible by an unprecedented amount of funding from the Global Fund, PEPFAR and other sources (MOH 2008). The delivery of the ART programme in Zambia is a collaborative effort that involves many NGOs, churches and communities.

The current standard of care for people with HIV indicated for treatment is a combination of three or more antiretroviral drugs taken every day for life, known as Highly Active Antiretroviral Treatment (HAART). HAART consists of a combination of at least three drugs namely: two Nucleoside Reverse Transcriptase Inhibitors (NRTI) plus one Non nucleoside Reverse Transcriptase Inhibitor (NNRTI) or two NRTI plus a Protease Inhibitor (PI) or a combination of three NRTI (MOH 2008b). People with HIV generally do not need to begin antiretroviral treatment until their disease reaches an advanced stage; i.e immune system falls to less than 200CD4 cells (MOH 2008b).

Though the Zambian Government has introduced free ART services, prevention has been the cornerstone for the national response against the HIV/AIDS pandemic and this effort is being

coordinated by the Government, civil society and international cooperating partners (MOH 2005b) Major interventions have included raising awareness, influencing behavior change, voluntary counseling and testing, prevention of mother-to-child transmission, promotion of condom use, case finding and treatment of STIs and provision of safe blood and blood products.

CHAPTER 2: OBJECTIVES

2.10 Main objective

To determine the level of acceptability and factors that may be associated with acceptability of ARVs among adults living in Chawama, Lusaka.

2.11 Specific objectives

1. To assess the level of willingness to take ARVs
2. To assess the level of knowledge on ARVs.
3. To determine whether perception, social-cultural and demographic characteristics may be associated with acceptability of ARVs
4. Draw conclusions and make recommendations based on the study findings that will influence strengthen positive practices that encourage uptake and acceptance of ARVs.

2.20 Operational definitions

- **Acceptability** – Degree of approval of ARVs in management of HIV/AIDs (Willingness to take ARVs)
- **Antiretroviral drugs (ARVs)**: Drugs that specifically work to suppress HIV replication
- **Antiretroviral Therapy (ART):** Management of the HIV disease with the use of ARVs
- **Adherence:** accepting, agreeing and following correctly a prescribed treatment
- **Highly Active Antiretroviral Therapy (HAART):** Use of effective combinations of three or more ARVs usually from two or more drug classes in order to achieve the greatest suppression of viral load for the sustained period of time
- **Compliance:** the act of conforming, yielding or acquiescing to ARV treatment commenced

- **Socio-cultural practices:** These are customs, behaviors and rules in society which may influence the way people relate to acceptance ARVs
- **Gender:** These are societal roles expected to be performed by male and females respectively
- **Service Related Factors:** These are activities that occur within the provision of ARVs
- **Traditional Medicine:** Any unconventional medicine used in treatment of HIV/AIDS
- **Adult:** Male and female above eighteen years old
- **Unemployed:** Male or female with no source of income
- **Age:** Scale in years (1) <21 (2) 21 - 30 (3) 31 - 40 (4) 41 – 50 (5) >50
- **Accessible:** near home

CHAPTER 3: METHODOLOGY

3.1 Research study variables

Dependent Variable: Acceptability of ARVs measured by willingness

Independent Variables:

Demographic Variables: The variables that were used to determine demographic characteristics associated with acceptability of ARVs were age, sex, marital status, employment and education

Perception variables

The variables that were used to determine perception influences associated with acceptability are; Perceived effectiveness of ARVs, perceived preferred place of treatment and perceived acceptance of ARVs as life treatment

Socio-cultural variables: The variables that were used to determine socio-cultural factors associated with acceptability of ARVs were: religion, traditional medicine, stigma (discrimination) and need for consent to begin taking ARVs

Knowledge on ARVs was graded as: inadequate knowledge and adequate knowledge

Table 3.1: Operational Variables

VARIABLE	CUT OFF POINT	INDICATORS
Dependent		
Acceptability:	1. Low 2. Moderate 3. High	1. <50% of respondents are unwilling to take ARVs 2. 50% of respondents are willing to take ARVs 3. >50% of respondents are willing to take ARVs
Independent		
1. Perception factors on ARVs:	1. Positive 2. Negative	1. Encourages taking of ARVs 2. Discourages taking of ARVs
2. Socio- Cultural factors:	2. Positive 3. Negative	1. Encourages taking of ARVs 2. Discourages taking of ARVs
3.Knowledge on ARVs:	1. Adequate knowledge 2. inadequate knowledge	1. A score on all 3 questions 10, 13 and 14 on knowledge questions 1. Score of 2 or less

3.2 Study design

The design for this study was cross sectional survey, employing quantitative methods of data collection. Cross sectional survey is a design, which is aimed at quantifying the distribution of certain variables in a study population at one point in time (Sweeney & Olivieri 1999).

3.3 Study setting

The study was conducted in Chawama, Lusaka. Chawama is a high density area with a population of about 88,000 and 12000 households (CSO 2003). At the time of data collection the compound was divided into 21 residential zones. Each zone had a different number of houses. Only one Government clinic offering active ART and VCT facilities was available at the time of the study. Clinic records showed that in the year 2008 about 3800 patients were on ART and an estimated number of 6500 were HIV clients. Chawama is a medium income area comprising of both high and low income groups.

3.4 Study population

The study population comprised of one adult 18 years and above at each selected household in the compound. The target age group was 18 years and above

3.5 Sampling

3.5.1 Sampling method

Multistage sampling method was employed in this study. All the 21 zones in the compound were purposively selected followed by a proportional to size selection of a representative number of households in each zone. The households were simple randomly selected. Only one eligible adult was selected at each particular selected household. At selected households where there were more than one consenting adults, a simple random selection was employed.

3.5.2 Inclusion criteria

Only one adult 18 years and above at selected households who consented to participate in the study was interviewed. Selected households where eligible adults were not found were skipped and followed up later. Only adult residents of Chawama were included in the study.

3.5.3 Exclusion criteria

All persons below 18 years were not included in the study. Eligible candidates in selected households who did not consent to the study were excluded. All adults above 18 years who were found deaf and dump, sick and mentally ill and non residents of Chawama were excluded from the study.

3.5.4 Sample size

The statistical package EP Info version 6 was used to calculate the sample size. The confidence interval was set at 95%. The size of the population from which the sample is calculated is 12000 (total number of households). The expected frequency of the factor under study is 50% (the estimated percentage of acceptability). The worst acceptable frequency is 45% and a non response rate of 10% has been included

Population size……. …..12000

Expected frequency…… 50%

Worst acceptable…… 45%

Confidence interval ……95%

Sample size …… 372

Non response rate at 10%

Total sample size …..... **409 households** (One person/household)

Formulary for calculation of sample size

$$n = \frac{Z^2 P (Q-P)}{e^2}$$

n= sample size

P= Proportion (%) of support in the population

Q= Proportion of support in the population that is estimated from the sample by subtracting P from 1(Estimate of P from 100% of 1)

e= Required size of standard error

Z= Value encompassing exactly 95% of normal distribution between -2 and +2 = 1.96

3.6 Data collection tool and technique

Data collection was carried out over a period of one month from 12th January to the 15th February 2010. A structured questionnaire was used to collect information in a face to face interview lasting about 15 to 20 minutes. The questionnaire was divided in four sections namely (A) Demographic data (B) Knowledge on ARVs (C) Perceptions on ARVs (D) Social cultural factors. The purpose of the study was well explained to the participant before the start of the interview

3.7 Pilot study

The questionnaires were piloted on ten participants in Kalingalinga, Lusaka. All questions which were not clear were, revised.

3.8 Data quality control

Four research assistants (grade twelve leavers) were trained for a day on how to conduct an interview and enter information on the questionnaires. All questions were reviewed prior to the exercise. All questionnaires were coded for easy data entry and secured in a safe place

3.9 Data analysis

Data was entered and analyzed using the Statistical Package for the Social Sciences (SPSS) version 17. Raw data was edited for completeness and accuracy. Prior to data analysis, data was cleaned by browsing and frequency range checked and where errors were detected, corrections were made.

Logistic regression analysis was used to determine independent factors associated with willingness to take (acceptability) ARVs. The Chi square test was used to determine association between variables of interest. A result yielding a p value of 0.05 or less was considered significant. The Confidence interval was set at 95%.

3.10 Ethical consideration

The ethical clearance was granted by the University of Zambia Research and Ethics committee. Written permission to conduct the study was also granted by the Lusaka City Council Chawama Site Office. All participants gave a written consent for participation. Participants were interviewed separately and information submitted was treated with strict confidentiality except for the purpose of the study. Client names were not included on the questionnaires

3.11 Study limitations

The study design used (cross sectional) does not provide cause and effect of findings. The study findings were therefore limited to Chawama only. Acceptability could have been well measured over a large population coverage but due to limited time a small area was considered and also a small sample size was selected that is, one adult per household.

CHAPTER 4: RESULTS

4.10 Description of the sample

Table 4.1: Participants demographic characteristics in relation to age, sex, marital status, occupation and education

Demographic Factors		Frequency	Percent
Age:	<21	80	19.6%
	21-30	174	42.5%
	31-40	87	21.5%
	40-41	40	9.8%
	>50	28	6.8%
	Total	**409**	**100%**
Sex:	Male	193	47.2%
	Female	216	52.8%
		409	**100%**
Marital Status:	Single	204	49.9%
	Married	205	50.1%
	Total	**409**	**100%**
Occupation:	Unemployed	287	70.2%
	Employed	122	29.8%
	Total	**409**	**100%**
Education:	Non	13	3.2%
	Primary	156	38.1%
	Secondary	217	53.1%
	Tertiary	23	5.6%
	Total	**409**	**100%**

***Employed (formal employment)**

The findings of the study are based on the analysis of the responses from consenting adults 18 years and above, living in Chawama, Lusaka. The expected sample size in this study was 409 and 409 respondents were obtained giving a response rate of 100%.

From demographic characteristics (Table 4.1) it was observed that there were more female participants 216 (52.8%) than males [192(46.9%)]. The age of the participants ranged from 18 years to above 50years with the majority of participants [174 (42.5%)] being in the range of 21 to 31. The mean age was 31 years old with most of them having reached secondary school [217(53.1%)]. Very few participants had attained tertiary education [23(5.6%)]. The unemployed comprised the majority of participants [287 (70%)] and out of 122(30%) employed participants, 42 were women and 80 were men. Marital status showed
There was an equal distribution of the married [205(50.1%)] and unmarried [204(49.9%] participants. Demographic factor recorded a 100% (409) response.

Table 4.2: Description of perceptions on ARVs

Perceptions on ARVs		
Perceived acceptance of lifelong treatment:	No Yes **Total**	53 (13.0%) 354 (86.6) **407 (99.5%)**
Perceived effectiveness of ARVs:	Non effective Effective **Total**	105 (25.7%) 302 (73.8%) **407 (99.5%)**
Preferred place of HIV/AIDS treatment:	Other Clinic **Total**	54 (13.2%) 354 (86.6%) **408 (99.8%)**
Socio-cultural factors		
Religion:	Other Christians **Total**	8 (2.0%) 398 (97.3%) **406 (99.3%)**
Denomination:	Catholic Other **Total**	**79 (19.3%)** **317 (77.5%)** **396 (96.8%)**
Needing consent to begin ARV treatment:	No Yes **Total**	271 (66.3%) 136 (33.3%) **407 (99.5%)**
Fear of discrimination:	Yes No **Total**	**196 (47.9%)** **211 (51.6%)** **407 (99.5%)**

There were missing responses to questions on perception, socio-cultural and knowledge factors, that is, less than 409. On perceptions on ARVs, most participants [354(86.6%)] expressed that they could manage to take ARVs for life (lifelong treatment) if they were put on ARV treatment. 73.8% (302) believed that ARVs were effective and 86.6%(304) expressed that they would seek treatment from the clinic than any other place if they were found ill with HIV/AIDs.

On socio-cultural factors, the study showed that most participants were Christians [97.3 %(398)] and other than being catholic most respondents [77.5 %(317)] belonged to different Christian denominations. 33.3% expressed that they would need consent or permission from their partners or family members before beginning ARV treatment. 51.6% (211) of the participants expressed their family members would discriminate or stigmatize them if they found out that they were taking ARVs.

Knowledge on ARVs

Table 4.3: Level of knowledge of ARVs among participants

	Frequency	Percent
Inadequate knowledge	212	51.8
Adequate knowledge	194	47.4
Total	**406**	**100**

Knowledge was measured from a score on three questions from the questionnaire, Qn. 10 (ARVs are drugs for what disease?), Qn. 13 (How long should one take ARVs once started?) and Qn. 13 (Taking ARVs can lead to absolute cure of HIV infection?). A score of all three questions was graded as adequate knowledge and any score of two questions and less was graded as inadequate knowledge. Of the total 406 participants, only [194(47.4%)] answered all the three questions correctly, that is, they knew that ARVs were drugs for HIV/AIDS, once started ARVs were to be taken for life and that ARVs could not lead to absolute cure. The remaining 212(51.8%) answered one or two of the above questions correctly.

Previous formal knowledge on ARVs

Table 4.4: Previous formal knowledge on ARVs

	Frequency	Percent
No	116	28.4
Yes	293	71.6
Total	**409**	**100**

71.6% (293) of participants admitted having received previous information or education on ARVs while the others [28.4% (116)] expressed their knowledge on ARVs was very informal

Overall Willingness

Table 4.5: Willingness to take ARVs

	Frequency	Percent
No	69	16.9
Yes	339	82.9
Total	**408**	**99.8**

On the overall, 339(82.9%) of participants were willing to take ARVs and only 69(16.9%) were not.

4.20 Determinants of willingness to take ARVs

4.2.1 Association of factors with willingness using Chi-square test

Table 4.6: Association of demographic Characteristics with willingness to take ARVs

Demographic characteristics		Participants willing to take ARVS	Total Participants (n)	P value
Age:	<21 21-30 31-40 40-51 >50	16.9% 35.8% 17.6% 7.8% 4.9%	79 174 87 40 28	0.39
Sex:	Male Female	40.0% 43.1%	192 216	0.22
Marital status:	Single Married	40.0% 43.1%	203 205	0.86
Education:	Not educated Educated	35.5% 47.5%	169 239	0.14
Occupation	Unemployed Employed	59.6% 23.5%	286 122	0.08

All the demographic characters (age, sex, marital status, education and occupation) had no association with willingness to take ARVs. ($p>0.05$) Majority of participants (35.8%) willing to take ARVs were in the age range of 21- 30 years. 43.1% of females and 40, 0% of males were willing to take ARVs while the unemployed (59.6%) were more than the unemployed (23.5%0)

Table 4.7: Association of perceptions of ARVs, social-cultural variables and knowledge of ARVs with willingness to take ARVs

		Participants willing to take ARVS	Total Participants (n)	P Value
Perceived effectiveness of ARVs:	Non effective Effective	18.0% 65.3%	104 302	<0.0001
Perceived acceptance of lifelong treatment:	No Yes	7.9% 78.1	53 354	<0.0001
Preferred place of treatment:	Other Clinic	5.9% 77.4%	54 353	<0.0001
Religion:	Other Christians	1.5% 81.5%	8 397	0.41
Denomination:	Catholic Other	16.2% 66.8%	79 316	0.35
Needing consent to begin ARV:	No Yes	52.1% 31.2%	271 136	<0.0001
Discrimination:	Yes No	36.4% 46.9%	196 211	<0.0001
Knowledge:	Inadequate Adequate	44.2% 39.0%	212 193	0.50

There was an association between a belief in ARVs effectiveness and willingness to take ARVs, P<0.0001. Participants willing to take ARVs because they perceived ARVs were effective were 265 (65%) and were more than those who perceived ARVs to be non effective. An association also existed between those who perceived they could manage to take ARVs for life with willingness, (p<0.0001). Religion (p=0.41) and denomination (p=0.35) did not have an association with willingness. The place of preference for treatment was observed to have an association with willingness (p<0.0001) with 317(77.4%) willing to access treatment from the clinic and not any other place. The need to get consent from family or partner had an association with willingness,

p<0.0001 with those needing no consent but willing being the majority [212 (52.1%)]. The fear of being discriminated by partner or family when one opted to take ARVs had an association with willingness to take ARVs (p<0.0001). Those who had a belief that their family or partners would accept and help them and were willing to take ARVs were 191 (46.9%) and formed the majority to those that expressed fear of being discriminated. There was no association between willingness and knowledge (p=0.50) with 212(51.8%) with inadequate knowledge willing to take ARVs.

4.2.2 Determinants of willingness using regression analysis

The determinants of willingness were found using both univariate and multivariate regression analysis. Factors that were significantly associated with willingness were sex, effectiveness of ARVs, preferred place of treatment, life treatment, needing consent to begin ARV treatment, fear of discrimination and knowledge on ARVs. Religion and denomination were not included in the regression because of their lesser contribution to the model.

Sex was the only demographic factor that was observed significantly influencing willingness with females [176(43.1%)] being 2.27 more likely to be willing to take ARVs than males [AOR: 2.27(95%CI, 1.10 -4.70)]

Participants [265 (65.3%)] who perceived that ARVs were effective were 3.50 more likely to be willing to take ARVs than those who said they were not effective [AOR: 3.50(1.71 - 7.82))]. And those [315(78.1%)] whose preferred place of treatment was the clinic were 5.3 more likely to take ARVs than those who preferred other places [AOR: 5.37(2.37- 12.01)]. Those [318 (78.1%)] that perceived they could manage to take ARVs for the rest of their lives were 8 times more likely to take ARVs than those that said they wouldn't [AOR:8.16(3.51-18.97)].

Knowledge on ARVs was observed to be significantly associated with willingness with those [158(39.0%)] with adequate knowledge being more likely to be willing to take ARVs than those who had inadequate knowledge [AOR: 2.23(95% CI, 1.07 – 4.64)].

Table 4.8 below shows the significant factors that were observed:

Table 4.8: Logistic regression results on willingness to take ARVs

Independent Factors		**Prevalence (total %)**	**Univariate OR(95%CI)**	**Multivariate OR(95%CI)**
Age	18-20	64(15.7%)	1.32(0.67-2.6)	1.44(0.56-3.69)
	20-35	186(45.6%)	1.20(0.50-2.88)	0.50(0.15-1.72)
	36-45	51(12.5%)	0.81(0.34-1.94)	0.54(0.17-1.70)
	46>	38(9.3%)	1	1
Sex*	Male	163(40%)	1	1
	Female	176(43.1%)	0.78(0.46-1.32)	2.27(1.10- 4.70)
Marital Status	Single	163(40%)	1	1
	Married	1764(43.1)	1.49(0.88-2.51)	0.70(0.34- 1.42)
Education	Not educated	145(35.5%)	1	1
	Educated	194(47.%)	0.71(0.42-1.23)	1.11(0.54- 2.32)
Occupation	Unemployed	243(59.6%)	1	1
	Employed	96(23.5%)	1.53(0.89-2.63)	1.98(0.93 - 4.20)
Perceived ARV Effectiveness*	Non effective	73(18%)	1	1
	Effective	265(65.3%)	3.04(1.77-5.24)	3.50(1.71 - 7.82)
Preferred Place of treatment*	Other	24(5.9%)	1	1
	Clinic	315(77.4%)	10.36(5.50-19.52)	5.37(2.37-12.01)
Perceived acceptance of Lifelong treatment*	No	21(5.2%)	1	1
	Yes	318(78.1%)	13.46(7.03-25.77)	8.16(3.51-18.97)
Needing consent to begin ARV treatment*	Yes	212(52.1%)	1	1
	No	127(31.2%)	3.92(1.88-8.19)	1.30(1.20 – 2.72)
Fear of Discrimination *	Yes	148(36.4%)	1	1
	No	191(46.9%)	3.10(1.762-5.444)	2.47(1.22- 5.00)
Knowledge on ARVs *	Inadequate	179(44.2%)	1	1
	Adequate	158(39.0%)	0.83(0.49 – 1.40)	2.23(1.07 – 4.64)

***Denotes significant factors**

On the overall participants [212(52.1%)] that believed needed no consent or permission from their partners or families to begin ARV treatment if found legible for ART were more likely [OR 1.30, 95% CI 1.20 – 2.72] to be willing to take ARVs than those who needed consent. Those [191(46.9%)] that had a belief that their partners or families would not discriminate them if found taking ARVs were 2.47 more likely to be willing than those that expressed they would be discriminated or stigmatized [OR: 2.47(95% CI, 1.22 – 5.00)] (Table 4.8)

Table 4.9: Needing consent to take ARV treatment and fear of discrimination by sex

		Males		**Females**	
		Prevalence (%n)	**AOR(95%CI)**	**Prevalence (%n)**	**AOR(95%CI)**
Needing consent to begin ARV treatment:	Yes	30.9%(n=62)	1	50.0%(n=142)	1
	No	54.5%(n=129)	0.23(0.48-0.82)	31.5%(n=74)	1.22(1.88-2.50)
Fear of discrimination:	Yes	36.6%(n=90)	1	36.1%(n=106)	1
	No	48.7%(n=101)	1.47(1.15-1.89)	45.4%(n=110)	2.70(1.05-6.97)

When adjusted for sex, 54.5% (n=129) of males that believed needed no consent were 77% less likely to be willing than those [30.9% (n=62)} that believed needed consent [OR: 0.23(CI, 0.48-0.82]. The females [31.5% (n=74)] that believed needed no consent were 1.22 more likely to be willing to take ARVs than those [50% (n=142)] that believed needed consent. Discrimination did not have a significant influence on men's willingness [AOR 1.47 (95% CI 1.15-1.89)] but was significantly high for females with those [45.4% (n=110)] that lacked fear of discrimination being 2.70 more likely to be willing than those [36.1(n=106)] that believed would be discriminated (Table 4.9)

CHAPTER 5: DISCUSSION

5.1 Introduction

This section discusses the key findings of this study in line with the earlier stated objectives. It discusses the main findings from which conclusions are drawn. Bias considerations, recommendations for policy and future research considerations are also outlined.

The key findings to be discussed in this section are; High level of willingness, level of knowledge observed, perception and social-cultural determinants of willingness that were found.

5.2 Willingness among participants

The study on the overall revealed that more than 50% (83%) of participants were willing to take ARVs if found legible for ART (Table 4.5). The females were more likely to be willing to take ARVs than males. This result was not surprising especially in the African setup where the HIV/AIDS disease burden weighs more on women than males (UNAIDS 1998). It was not also surprising to observe the presence of many females than males at the time of the study as this could be attributed to the observed social-cultural influences in the country such as early marriages and that women should be keepers of home (CSO 2003).

It was observed that 70% of participants were unemployed. This reflected the typical situation in Zambia where the majority of people (70%) are unemployed (CSO 2007). Despite high levels of unemployment, majority of participants were willing to take ARVs, 59.6% of the unemployed and 23% of the employed. In the area of education, the study showed that very few (5.6%) had attained tertiary education with the majority ((53.1%) of participants having been through secondary school education. Zambia records about 60% illiteracy levels and this could have contributed to the findings of the study. CSO 2007) Despite these differences in education both the educated and uneducated recorded a high level of willingness to take ARVs.

Results also revealed that the majority of participants were in the age group of 21-30 years (42.5%) and 31-40 (21.5%). This encompassed the reproductive age group of 15- 45 years of age that is greatly affected by HIV/AIDS pandemic. The study therefore, also served as a sensitization program for these young people. 35.8% of the age group 21-30 was willing to take ARVs and 21.5% of the age group 31-40. The average age of participants was 30 years old. The presence of this reproductive age group at the time of study could be attributed to high levels of unemployment among the youths and in Zambia as a whole (CSO 2007). There were very few participants above

the age of 50 years (6.8%) a situation that is expected in most Zambian communities. The life expectancy of individuals in Zambia at birth is about 42 years for males and 43 for females (WHO 2008)

The high level of acceptance observed could be attributed to the intervention programs on the realities of HIV/AIDS the Government of Zambia has been in engaged in since the introduction of free ART services in 2005 (MOH 2008). This was also evidenced by the number of participants (71%) that had previous formal knowledge on ARVs (Table 4.4). The other contributing factor to this overwhelming willingness could be that the study site (Chawama) makes it more accessible to information flow as it lies right in the capital city of Zambia. Chawama like many other urban areas in Zambia have an advantage to information flow than many rural settings

However, this willingness has been found to be associated with factors such as, social-cultural, knowledge on ARVs, perception factors and demographic factors

A similar study conducted in South Africa on ART acceptance revealed similar results of a high acceptance associated with significant social and economical factors (Padarath et al 2006).

5.3 Perceptions of participants on ARVs and their influence on willingness

The study revealed that the perception on effectiveness of ARVs had a significant contribution to willingness of participants to take ARVs [OR: 3.50(1.71 - 7.82))] with those with a belief that ARVs were effective being 3.5 more likely to be willing to take ARVs than those who said they were not. 65.5% of those participants who believed ARVs were effective were willing to take them. The high level of willingness due to believing that ARVs were effective could be attributed to the longevity, a new life and hope these drugs have provided for people living with HIV/AIDS within the community (Blackstone 2005). Therefore, knowing that ARVs were effective had a positive influence on willingness. In a similar study conducted in Uganda on individuals' attitudes perceptions and beliefs toward HIV/AIDS care, prevention and control, results showed that nearly one third of the respondents in the study believed ARVs were effective at treating HIV/AIDS.

The other significant perception factor was the preferred place of treatment and was found to be associated with willingness ($p<0.0001$) Those who (86.6%) preferred the clinic for their medical attention in case of HIV/AIDS infection showed an increased likelihood to be willing to take ARVs than those who preferred other places like church, traditional healers etc [OR: 5.37(95%CI

2.37 - 12.0)]. The high level perception that the clinic was the preferred place of treatment for HIV/AIDS is basically due to the imparted perception that HIV/AIDS is diagnosed from the clinic and that ARVs are also gotten from the clinic than any other place. The preference for the clinic could also be attributed to the availability of free ARVs at the clinic. Many sensitization programs on HIV/AIDS that the Government carries out in communities focus on the clinic as the preferred place of treatment and thus reducing the negative perceptions on the clinic. However, apart from the clinic, other studies have shown that many Africans opt for the use of traditional medicines from traditional healers for many diseases including HIV/AIDS (Siulanda 2007)

On acceptance of ARVs as a lifelong treatment, the study revealed that the perceived acceptance of ARVs as a lifelong treatment significantly had an association with willingness [OR: 8.16(3.51-18.97))], with those [318 (78.1%)] that perceived they could manage the pill burden that comes with ARV treatment being 8 times more likely to be willing than those that said they wouldn't. Thou taking ARVs for life can be a burden on a patient, 87% of participants in this study believed they would accept to take ARVs for life if found legible for ART thereby increasing the likelihood of willingness. The high acceptance of taking ARVs for life could be attributed to the hope that ARVs has brought to many people living with HIV/AIDS. This hope has impacted many lives that have in turn changed their negative attitudes towards ARVs (Blackstone 2005).

The high acceptance could also be attributed to the reason that HIV/AIDS clients had no other choice apart from taking the prescribed ARV course. In a similar study conducted in Canada on acceptance and uptake of ARVs, results showed that 42% of the respondents perceived that they could not adhere to daily treatment.

A study conducted in Canada on acceptance and uptake of ARVs showed, high rates of anticipated barriers to ARV's such as a fear of side-effects (60%), not knowing enough about the treatment (59%), perception that they could not adhere to daily treatment (42%), and a fear that others would know their HIV status (42%) and 75% felt it would be acceptable to have their medications delivered to their home (Shannon, Bright et al. 2004).

5.4 Social – cultural influences on willingness to take ARVs

The findings of the study revealed that there was a high significant association between willingness to take ARVs and fear of discrimination by partner or family if found taking ARVs ($p<0.0001$) but when adjusted for sex, fear of discrimination did not significantly influence males willingness to take ARVS [AOR:1.47[95% CI (1.15-1.89)] but was significantly high for females with those that lacked fear of discrimination being 2.70 more likely to be willing than those that believed would be discriminated (Table 4.9) These findings are consistent with other research findings that have also shown that discrimination is common especially against women in most African settings. Reports have shown that other persons particularly women may be beaten by their partners if they disclose their HIV status and may be refused to seek treatment (MOH 2008b).

The study demonstrated that despite high levels of HIV awareness, stigma and discrimination was still being perpetuated in some communities. This discrimination may lead to HIV infected persons being rejected by their family and friends or may suffer job loss. Therefore, in such instances willingness to take ARVs may negatively be affected. A similar study conducted in South Africa on critical barriers to community participation in HIV and antiretroviral services; found that poverty and stigma were significant barriers to accessing HIV and AIDS care and treatment services in the public health sector (Padarath et al. 2006).

Getting consent or permission from partners or families was a highly significant determinant of willingness to begin ARV treatment ($p<0.0001$). When adjusted for sex, 54.5% of males that believed needed no consent were 77% less likely to be willing than those that believed needed consent. The females that believed needed no consent were 2.70 more likely to be willing to take ARVs than those that believed needed consent.(Table4.9) These results were consistent with the observed findings that males were less likely to be willing than females. Reports have shown that in households' females tend to seek consent much more than males for various reasons. Many cultural factors such as religious stigma; domestic violence; socioeconomic constraints, including literacy, living conditions, nutrition, presence or absence of family etc, affect and may affect treatment and individual acceptability of treatment with ARVs (Willard & Angelino 2008)

Reports have shown that religious beliefs have an influence on willingness to take ARVs. However in this study no association was observed between religion and denomination with willingness ($p>0.0001$) Majority (97.3%) of respondents in this study were Christians many

(77.5%) of who were from different denominations other than Catholic. 81.5% of these Christians were willing to take ARVs. A study conducted on the Muslim community in Nigeria on Islamic perception of HIV/AIDS and ARVs in Africa, revealed that Islam's emphasis was on prevention of the disease and care for the patient. The study also identified that ARVs had some impact on Islamic belief system relating to disease and healing (Dilger H etal (2009). Reports have also shown that among Christian beliefs, it is believed that with God nothing is impossible (Bible: Luke 1:37) and that HIV/AIDS may be cured or managed without the use of ARVs (Chitambo 2007)

5.5 Knowledge on ARVs among participants

More than fifty percent of participants had inadequate knowledge on ARVs in this study (Table 4.3) However; the inadequacy did not at most affect the level of willingness. Despite the level of knowledge assessed, majority of participants were willing to take ARVs. An association existed between knowledge and willingness with those with adequate knowledge [158(39.0%)] being 2.23 more likely to be willing to take ARVs than those who had inadequate knowledge. The results were reasonable as the more people became more knowledgeable on ARVs the more the willingness to take them.

However, the inadequacy could be attributed to inadequate education on ARVs. In most Zambian communities, information on HIV/AIDs is wide spread than is on ARVs (MOH 2008). Another contributing factor could be the high levels of illiteracy in the country.

The result of inadequate knowledge is that many clients only approach the clinic when they are already in an advanced stage of Aids. This is often the first time they may receive unambiguous information on ARVs (Rutaremwa 2004).

5.6 Bias consideration

The high level of willingness could have been influenced by observational bias (interviewer) due to different interviewer styles that might have provoked different responses to same questions. Another probable bias is the observational (information) bias where participants that were not on ART or HIV positive were more likely to under report than those that were affected. Notwithstanding the presence of observational bias (interviewer and information) due to different interviewers, they are unlikely to be an important factor explaining the high level of willingness

CHAPTER 6: CONCLUSION AND IMPLICATIONS FOR POLICY AND RESEARCH

6.1 Implications for Policy and Research

The findings presented in this study raise many policy issues some of which are outlined below. Acceptability (willingness) of ARVs is a very essential element to getting more people on ART and thereby contributes to the reduction of morbidity and mortality due to HIV/AIDS.

Policy

The following implications of these findings meant to strengthen and encourage ARVs uptake in communities show that:

Illiteracy levels are high in the country and thus, a deliberate move to provide educational materials on ARVs in local languages should be a made. This may improve knowledge on ARVs. A good understanding of what drugs or medications one is taking increases the likelihood of taking such medications

As revealed by the study, stigma or discrimination is still being perpetuated in some communities, increased sensitization programmes are required on the reality of ARVs and HIV/AIDs

Although the HIV/AIDS burden weighs more on women than males in Africa, community programs involving both males and females should be encouraged to promote willingness and a positive attitude towards ARVs especially among males who showed a less likelihood for willingness in this study

ARVs perceived effectiveness should be reinforced by effectively monitoring the processes of manufacturing and supply of these drugs. Poor quality ARVs should not be supplied in the country as this promotes inefficiencies as far as management of HIV/AIDS with ARVs is concerned. Poor quality ARVs have been associated with an known side effects and low efficacy that leads to poor management of the patient consequently low level of willingness to taking of ARVs

6.2: Challenges

1. Measurement of the level of discrimination

   Notwithstanding the fact that HIV/AIDs has been in existence for the past 20/30 years now discrimination against PLWHA is still being perpetuated in many communities. To what extent this discrimination is provides another area of study

2. Perception that ARVs are effective in the management of HIV/AIDS, showed an increased likelihood for willingness to take ARVs. A study on effectiveness of ARVs available in public health institutions in Zambia can therefore be conducted.

3. Religion has been reported to influence decisions on matters related to HIV/AIDs and its management. Investigation into what religious factors and to what extent these factors affect the uptake of ARVs can be done.

6.3: Conclusion

The main objective of the study was to determine the level of acceptability (measured by willingness) of ARVs among participants and factors that may be associated with it. More than fifty percent were of participants were willing to take ARVs. However, this acceptability was found to be significantly associated with factors such as sex, perception on effectiveness of ARVs, perceived acceptance of ARV lifelong treatment, perceived place of preferred treatment, the need for consent to begin ARV treatment, fear of discrimination and knowledge on ARVs. The observed high rate of acceptability was consistent with the increased global perspective on HIV/AIDS management, care and support.

Occupation, education level, marital status and age did not influence willingness. The study findings suggested that improvement of social cultural factors such as discrimination positively influenced individual attitudes, beliefs and perceptions towards ARVs.

Majority of participants preferred to get their treatment from health centers than other places such as churches or traditional healers. Spiritual healings that come with religion and denomination was not evident in this study as the majority Christians was willing to take ARVs.

The likelihood for needing consent to begin ARV treatment was much higher in this study suggesting social, cultural, spiritual and economical interferences in the way people make health related decisions.

Lastly but not the least, the observed inadequacy on basic ARVs knowledge questions demonstrated the need for provision of accessible, unambiguous and consistent information on treatment, as well as involving the broader community in treatment issues. This is in line with the finding that many preferred the clinic for treatment of HIV/AIDS. With this preference, the clinic works out to be the centre of information flow.

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APPENDIX I

PARTICIPANT INFORMATION SHEET

ACCEPTABILITY OF ANTIRETROVIRALS AMONG ADULTS LIVING IN CHAWAMA COMPOUND, LUSAKA

Introduction

I, Sharon Munthali a student from University of Zambia in Public Health Programme is kindly requesting for your participation in this study were I am gathering information on your acceptability of ARVs, the drugs used for management of HIV/AIDS. The information being collected may be used to help improve ART services in the near future. The information you will volunteer will be kept strictly confidential and will not be disclosed to anybody or used for anything other than the intended purpose of the study. Your participation is entirely voluntary and you are under no obligation to take part in this exercise. I will explain to you what will be involved while taking part in this exercise and if you accept to take part, a form will be issued were you will sign or put a thumb print to show consent.

Purpose of the Study

The purpose of this study is to gather information on acceptance of ARVs by people in the community that may be used to improve future ART services

Procedure

Following your signing of the consent form, you will be allowed to ask any questions relating to the exercise and you will be asked a number of questions on your health, ARVs and on ARVs services being offered. You will not be compelled to answer any question(s) you feel uncomfortable with but it will help me if you try to answer all questions.

Risks and Discomforts

This study will not involve drawing of blood from you or any invasive procedures. It will only involve you in answering the structured questions. You may find some questions uncomfortable however all information you will submit will be strictly kept confidential

Benefits

The benefits you get from participating in the study is that you will receive information that will help you make informed decisions on health issues concerning ART and ARVs. Furthermore, the information that this study will generate will be passed on to policy makers and care providers for future improvement of services. No monetary favors will be given in exchange for information.

Confidentiality

The information you will submit will be kept strictly confidential. No name will be written on the questionnaire, except for the number to identify the questionnaire which will only be known by the interviewer. The Ministry of Health, University of Zambia Research Ethics Committee may review your records under this study under strict confidentiality.

Please Note

1. Your participation in this exercise is voluntary
2. You are under no obligation to take part in this exercise should you decide not to
3. No blood will be collected from you or any invasive procedure will be conducted on you in this exercise

APPENDIX II

CONSENT TO PARTICIPATE IN THE STUDY

Dear participant having been explained to the nature and purpose of the study, risks, benefits and confidentiality, you may sign below to declare your participation as voluntary and not forced.

Sign/Thumbprint…….Date……

Witness (Name)……..Sign…….

CONTACT PERSONS FOR ANY QUERIES OR INFORMATION RELATED TO THE STIUDY.

1. Ms Sharon Munthali, University of Zambia, Department of Community Medicine, P.O Box 50110, Lusaka. Cell 0955 872483

   Email: scmunthali@yahoo.com

2. Dr C Michelo University of Zambia, Department of Community Medicine, P.O Box 50110, Lusaka

3. The Chairman, Research Ethics Committee, Department of Community Medicine, P.O Box 50110, Lusaka. Tel: 260-1-25606

APPENDIX III

QUESTIONAIRE

THE UNIVERSITY OF ZAMBIA
SCHOOL OF MEDICINE
DEPARTMENT OF COMMUNITY MEDICINE

ACCEPTABILITY OF ANTIRETROVIRALS AMONG ADULTS LIVING IN CHAWAMA, LUSAKA

QUESTIONAIRE CODE No: …….

INSTRUCTIONS

1. Remember to enter questionnaire code number
2. Make the respondent comfortable before and throughout the whole interview
3. Read the question with the respondent and ensure that he/she understands the question before answer is given
4. Mark with the number in the box corresponding to the answer given
5. For open ended questions, write the information accurately or exactly as given in the spaces provided without distorting it.
6. At the end of the interview, remember to thank the respondent for his/her participation in the exercise

SECTION A: DEMOGRAPHIC FACTORS

Tick only one correct answer

1. What is your age?

…..…… ……

2. Sex of the participant

i.	Female	
ii.	Male	

3. What is your marital status?

i.	Single	
ii.	Married	
iii.	Divorced	
iv.	Widowed	
v.	Co-habiting	

4. What is your current occupation?

i.	Employed	
ii.	Unemployed	

5. How far have you gone in your education?

i.	Primary	
ii.	Secondary	
iii.	Tertiary	
iv.	Non	

6. How many years have you been in school?

……

SECTION B: KNOWLEDGE ON ARVS

7. What do the letters ARV stand for?

……

8. Have you ever received any formal information on ARVs before?

i.	Yes	
ii.	No	

9. When did u first hear of ARVs?

i.	Less than a year	
ii.	2 years ago	
iii.	5 years ago	
iv.	10 years ago	
v.	Never	

10. ARVs are drugs for what disease?

i.	Malaria	
ii.	HIV/AIDS	
iii.	Cholera	
iv.	I don't know	

11. How long have you been on ARVs?

i.	Less than a year	
ii.	More than a year	
iii.	More than 5 years	
iv.	Never	

12. How long should one take ARVs once started?

i.	1 year	
ii.	5 years	
iii.	Lifelong	
iv.	10 years	
v.	I don't know	

13. Taking ARVs can lead to absolute cure of HIV infection?

i.	True	
ii.	False	
iii.	I don't know	

SECTION C: PERCEPTION FACTORS ON ARVS

14. How would you rate the effectiveness of ARVs?

i.	Very effective	
ii.	Less effective	
iii.	Non effective	
iv.	I don't know	

15. Where would you seek treatment if found ill with HIV/AIDS?

i.	Church	
ii.	Traditional Healer	
iii.	Clinic	
iv	Other	

16. If you accepted to take ARVs, where would you like to receive your medicine from?

i.	Home	
ii.	Work	
iii.	Clinic	
iv.	Church	

17. Would you accept to take ARVs for life?

i.	Yes	
ii.	No	
iii.	I don't know	

SECTION D: SOCIO-CULTURAL FACTORS

18. What is your religion?

i.	Christianity	
ii.	Islam	
iii.	Hindu	
iv	Others (specify)	

19. What is your denomination?

i.	Pentecost	
ii.	Jehovah's Witness	
iii.	Seventh Day Adventist	
iv.	United Church of Zambia	
v.	Roman Catholic	
vi.	New Apostolic	
vii.	Dutch Reformed Church	
viii.	Other	
	Specify	

20. If you were found ill with HIV/AIDS would you be willing to take ARVs?

i.	Yes	
ii.	No	
iii.	I don't know	

21. What are the reason for the above (21)

i.	Prolong Life	
ii.	ARVs don't help	
iii.	I can't manage	
iv	They are harmful	

22. What do you think your partner/family would do if they found you were taking ARVs?

i.	Divorce you	
ii.	Help you	
iii.	Discriminate you	
iv	Chase you	

23. Do you need to get permission from your partner/family before starting ARV treatment?

i.	Yes	
ii.	No	

24. Would you need any assistance to begin your ARV treatment?

i.	Yes	
ii.	No	

Thank you for Participating