

**Determination of factors affecting adherence to anti-retroviral therapy in  
Mitford and Philani clinics**

by

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## **Declaration**

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## Abstract

The aim of this quantitative study was to determine factors affecting adherence to anti – retroviral therapy in two medical health centres, Mitford and Philani clinics in the magisterial district of Queenstown and Ntabethemba Administrative area with the aim of making some recommendations to improving adherence to anti – retroviral therapy. The researcher distributed twenty self completion questionnaires per clinic. All questionnaires at Mitford clinic were returned completed as required whereas only seventeen were returned from the Philani clinic.

The research study included HIV positive patients receiving anti – retroviral therapy in the respective clinics that are on ART already for 3 – 4 months. Respondents were between the ages of 18 – 55. The study was conducted for a period of 4 months with data collection and analysis conducted within a month. The researcher realises that the numbers were generally very small, more participants could have possibly changed the results of the study. Established results were however significant. The study was able to identify what could be presented as reasons for non – adherence to anti – retroviral therapy. Support to PLWHA and socio – economic issues were determined as primary reasons for non – adherence to ART.

A study with more participants (larger samples) in the future could possibly cover the weakness of this particular research study. Participants in the research study could be seen as adherent in the main with only a few cases that did not adhere at times as a result of reasons cited here. The study took long to take off because of the ethical clearance that took long to be issued by the REC. The period that it was meant to take was interfered with as a result of this delay by the REC. The REC clearance had to be followed by clearances from the EC Provincial DOH (Epidemiological Research & Surveillance Unit – Bisho) and the two managements of the two districts had to issue their clearances thereafter. These clearances also took time to be secured. These delays further impacted on the time frame of the study as planned. The study however, managed to achieve the purpose for which it was set to achieve.

## Opsomming

Die doel van hierdie kwantitatiewe studie was om die faktore te identifiseer wat die getroue volging van anti-retrovirale terapie in twee mediese sentrums, beïnvloed. Die twee klinieke naamlik, Mitford en Philani, uit die Queenstown Distriek en Ntabethemba Administrasie gebied was geïdentifiseer. Die studie behoort aanbevelings te maak oor meer affektiewe volgehoue anti – retrovirale terapie. Die navorser het twintig vraelyste, wat deur pasiente self moes voltooi word, by elke kliniek afgelewer. Mitford kliniek het twintig voltooide vraelyste ingehandig. Philani kliniek het slegs 17 voltooide vraelyste ingehandig.

Die navorsing het HIV positiewe pasiente wat reeds 3 tot 4 maande die ART ontvang ingesluit. Die ouderdom grens van die pasiente was tussen 18 en 55 jaar. Die navorsings tydperk het oor vier maande gestrek en die data invordering en analise het oor 'n maand voltrek. Die navorser het besef dat die teiken groep relatief klein was en dat 'n groter studie veld wel die resultate kon beïnvloed en wysig het. Die navorsing het wel daadwerklike faktore ge-ïdentifiseer wat volgehoue ART negatief beïnvloed het. Ondersteuning aan PLWHA en sosio-ekonomiese faktore was aan die voertou as redes waarom pasiente nie deurlopend met anti-retrivirale terapie kon volhou nie.

'n Toekomstige studie oor 'n groter veld mag wel die swakpunte van hierdie studie korregeer. Die studie pasiente wat wel aan die volgehoue anti-retrovirale terapie deelgeneem het, het waarskynlik op die dag van hul besoek een van die bogenoemde struikelblokke ervaar. Die studie was onderhewig aan die etiese goedkeuring deur die REC, wat 'n tyds faktor was. Verdere tyds faktore was die goedkeuring van die Oos Kaapse Provinsiale DOH (Bisho), na die REC. Daarna was die studie onderhewig aan die goedkeuring van die Bestuur in die twee Distrikte ingesluit in die navorsing. Hierdie tyds faktore het wel die studie beïnvloed. Buiten hierdie faktore, het die studie wel die resultate waarvoor dit ontwerp was, bereik.

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## Acronyms

- AIDS - Acquired Immune Deficiency Syndrome
- ART - Antiretroviral Therapy
- ARV - Antiretroviral
- CD 4 - CD 4 Cell
- CHC - Community Health Centre
- DOH - Department of Health
- EC - Eastern Cape
- EPWP - Expanded Public Works Programme
- HAART - Highly Active Antiretroviral Therapy
- HIV - Human Immunodeficiency Virus
- HIV+ - HIV Positive
- MEC - Member of Executive Council
- NDOH - National Department of Health
- PLWHA - People Living With HIV/AIDS
- PMTCT - Prevention of Mother to child Transmission
- REC - Research Ethics Committee
- SADTU - South African Democratic Teachers Union
- SASSA - South African Social Services Agency
- TB - Tuberculosis
- UNAIDS - United Nations Joint Programme on AIDS
- WHO - World Health Organisation

## Chapter 1

### 1. Working title

The study seeks to determine factors affecting adherence to antiretroviral therapy in the Mitford and Philani clinics, in the magisterial districts of Queenstown and Ntabethemba Administrative area.

### 2. Introduction

South Africa is experiencing the largest HIV and AIDS epidemic in the world in terms of numbers infected, hence it is said to be the worlds' HIV capital. An estimated 5.6 million South Africans were HIV positive in the year 2008, the largest number of any country in the world so far. The estimated overall HIV prevalence rate in South Africa in 2011 was approximately 10.6% (5.38 million people living with HIV). [Statssa, mid - year population estimates 2011]. Different provinces experience different levels of HIV infections and AIDS related deaths. The HIV and AIDS pandemic is therefore a public health problem and a major development crisis that affects all sectors of society within the Republic of South Africa.

The pandemic has drastically affected health, economic and social progress, reducing life expectancy, deepening poverty and contributing to and exacerbating the rate of mortality. The South African Government has agreed to provide and increase the availability of anti - retroviral therapy and other drugs so as to manage other opportunistic infections. The National Department of Health led by the Honourable Minister Motsoaledi has been hailed the world over for championing the fight against HIV and AIDS. These truths therefore, are testimony to the fact that the HIV/AIDS epidemic is substantial and rapidly a growing problem for South Africa is no longer a matter of dispute. This therefore, calls on all stake holders to join hands in the fight against the pandemic. All of this further illustrates that the epidemic is in different stages of development in the different territories in the country and that different approaches are necessary to stem the tide of new infections and deaths within the country.

### 3. Background

The Republic of South Africa has one of the worst epidemic in the world, hence it is said to be the world capital of HIV and AIDS. Estimation stands at more than 1700 of people infected on a daily basis, 5.4 million South Africans infected with HIV and AIDS (UNAIDS 2007). This report suggests between 15 - 49 years of age (2.7 million are woman, 250 000 children between (0 - 14) years of age (National Department of Health, 2007). Deaths were expected to reach 800 000 annually by 2010 (Dorrington, 2002). The World Health Organisation (WHO), 2007, received antiretroviral treatment at the end of 2007, equal to 28% of those in need of treatment. Since the introduction of the antiretroviral therapy, improvements in treatment options and introduction of Highly Active Antiretroviral Therapy

(HAART), HIV has become a chronic illness instead of an acute terminal illness. Continuous viral suppression which is a primary goal of medical management of HIV infection, results in longer and healthier lives for HIV positive individuals (Ferguson et al, 2002). Different provinces in South Africa however experience different levels of HIV infections and AIDS related deaths. This reality illustrates the fact that the epidemic is in different stages of development in the different provinces and that a different approach to addressing the epidemic in each province is needed to stem the tide of new infections and death. Twenty percent (20%) of adults between the ages of 20 and 64 are estimated to be HIV positive.

The 2008 estimated prevalence of pregnant woman attending antenatal clinics is 29%. An additional 100,000 or even more are said to be receiving treatment from the private sector through various health insurance schemes, that is, medical health schemes and work place programmes. Strict adherence to antiretroviral therapy (ART) decreases viral load and increases the CD4 count and hence decreasing opportunistic infections and side effects. Strict lifestyle, long treatment adherence to drug regimens is essential to sustain health benefits and to minimise possibilities of drug resistance associated with treatment non - adherence. Resistance to anti - retroviral treatment develops with ease, if adherence is not observed, that is, doses to regimens are missed. Studies show that patients need to take at least 95% of doses in order to have a good chance of maintaining viral suppression.

Success of antiretroviral treatment partly depends on patient level of adherence. Good adherence decreases viral load, increases CD4 count and there are decreased opportunistic infections and side effects (Santrock, 2007). Prevalence of HIV and AIDS in some parts of Sub-Saharan Africa is increasing, suggesting that an HIV prevention revolution has become a necessity. In the year, 2010 an estimated 22.9 million people were living with HIV and AIDS, up from 22.5 million in 2009. Of those were between the ages of 15 - 49, an estimated 17% are HIV positive. These statistics call for seriousness on the part of prevention methods that should be employed so as to stem the tide of HIV/AIDS in the region and the world over. Commitment by a patient has been proven to be a key phenomenon if (ART) antiretroviral therapy is to yield good results hence, careful counselling of patient and family together before commencement of therapy is of paramount importance. Health providers/ health workers and the community at large need to provide an ongoing support to all concerned.

The patients' reliability in adhering to antiretroviral therapy plays a pivotal role in this process. A patient needs to have attended three or more scheduled visits to an HIV centre. HIV/AIDS patients must be encouraged to stay free of alcohol consumption, substance abuse and they must be free from any stress related feeling, depression, emotional distress or diagnosed mental disturbance. People living with HIV/AIDS (PLWHA) must be encouraged to disclose at least to a friend, family member or to any support group as chosen by the individual concerned. Patients should further be encouraged to have a stable relationship, a network of social support and a partner will ensure adherence to treatment. Knowledge of the disease and acceptance by the patient before starting with the treatment should be

encouraged. According to the World Bank data from 2011, the prevalence of HIV in South Africa for people aged 15 to 49 was 17.3%, the 4<sup>th</sup> highest prevalence rate behind Swaziland (26.0%), Botswana (23.4%) and Lesotho (23.3%). (World Bank Indicators. [Bit.ly/WlqdaM](http://bit.ly/WlqdaM))

#### 4. Research Question

Thus the question that this study is addressing is:

What are the factors that are associated with non-adherence that could lead to HIV/AIDS patients failing to adhere to anti – retroviral regimens at Philani and Mitford medical health centres?

#### 5. Significance of the study

Whilst' government and especially President Zumas' administration (particularly the Department of Health) and other players are determined to increase accessibility to the antiretroviral treatment, specific initiatives towards adherence to antiretroviral therapy in the form of ARV's have to be in place to ensure rational ARV use at all levels. There are ongoing training activities for health care workers currently in some provinces, on prescribing and dispensing antiretroviral therapy. Previous studies have revealed that patients do not have enough knowledge and do not remember how to use prescribed and dispensed drugs contributing to irrational usage.

A study conducted in Botswana revealed that patients have to overcome great odds to adhere to therapy, namely:

- They lacked adequate funding, often have to travel great distances to clinics that are providing antiretroviral treatment.
- If costs were determined as a barrier, then adherence rate is predicted to improve to 74%.
- The government of Botswana undertook several initiatives for improving adherence, such as:
  - Improvement in the distribution of antiretroviral therapy.
  - Strengthened health infrastructures for delivering health care.
  - Increased availability of clinical and laboratory monitoring and
  - Increasing access to (ARV's) antiretroviral therapy in the public sector.

This range of factors can be an impediment or barrier in the process of adherence to antiretroviral therapy and is therefore the main purpose and significance of this study. Availing this sort of information to government, that is, to both the Department of Health and Social development would be the main aim of this study. South African society is characterised by socio - political change. Prejudice, often in the form of racism, is still present in the post - apartheid South Africa. These prejudices must be acknowledged and challenged if they are to be overcome. In addition, the country faces challenges of socio -

economic development, which include an increasingly global economy, unemployment and an environmental degradation. It therefore, becomes necessary that we develop ways of living together in an emerging democracy and of enjoying hard won civil, political, social and economic rights. If these are addressed, challenges regarding tackling the scourge of HIV and AIDS as in addressing the question of adherence and availability of antiretroviral therapy as the medication concerned will be achieved. Lifelong adherence to antiretroviral treatment is vital to improving the patients' state of wellbeing and to develop the development of strains of the human immunodeficiency virus that are resistant to antiretroviral therapy.

## Chapter 2

### 6. Preliminary Literature Review

Adhering to antiretroviral therapy is the (2<sup>nd</sup>) second and strongest predictor of progression to AIDS and death after the CD4 count. Incomplete adherence to antiretroviral treatment is however, common in all groups of treated individuals. The average rate of adherence to antiretroviral treatment is approximately 70% despite the fact that long term viral suppression requires near perfect adherence (Fomundam, 2007). The epidemic is a public health problem and a development crisis that affect all sectors of society. The epidemic has dramatically affected health, economic and social progress, reducing life expectancy, deepening poverty, contributing to and exacerbating food shortages.

The HIV epidemic is among the leading causes of death worldwide. In 2007, worldwide, the number of adults and children living with HIV was estimated at 33, 2 million with 2.5 million new cases that year and 2.1 million HIV related deaths. (UNAIDS, 2009) reports 22.5 million in Sub - Saharan Africa living with HIV/ AIDS and 76% of HIV related deaths worldwide. The epidemic remains the disease of the young, that is, working class. People aged 15 - 49 had a prevalence rate of 18.8% comprising 87% of total infections (Statssa, 2003).

The World Health Organisation (WHO, 2007) estimated life expectancy of males and females in South Africa to be 52 and 55 years respectively. Disease increases morbidity and mortality in populations at certain ages where rates of morbidity and mortality are normally low. New forms of households (as a result) are emerging because of the impact of demographics. Households headed by grandparents and those headed by orphans are a common phenomenon (Barnett & Whiteside, 2002). The general household survey indicates that in South Africa in the year 2007 there were approximately 3.7 million orphans, an equivalent of 20% of all children in South Africa (Statssa, 2003). According to (UNAIDS, 2009) 1.8 million children lost their parents in 2007. This problem is of serious concern as it is escalating instead of subsiding as a result of seriousness of the epidemic in South Africa. Care of the elderly is seriously being neglected, poverty remains a stark reality for these household, often have to do on a merger social grants (Barnett & Whitehead).

The epidemic is increasing mortality amongst reproductive ages, living children to their own devices and as a result the elderly are left uncared for. All sectors of society have fallen victim to this epidemic and as a result a critical loss will be that of health care workers in the face of the epidemic. The epidemic will impact on society as a whole since the capacity of the health care system will be greatly diminished despite the great demand of health care services. A great number of health care workers will be suffering from the disease and a great number will have died. In 2002, health care workers in four of the nine provinces in South Africa were HIV infected (were living with HIV/AIDS) both in the public and private sectors. This impact will be felt severely in years to come since the younger group of health workers have a higher prevalence rate. In the absence of health interventions, South Africa alone can be expected to lose 16% of its health workforce in the near future.

According to SADTU (South African Democratic Teachers Union) the education sector is also not exempted from the wrath of the epidemic. SADTU, reports 40% increase of deaths between the years 2000 - 2001 and the average age of death was 39 years amongst a total of 10111 educators (SADTU Funeral Scheme, June 2000 & May 2001). The death of an educator has a serious impact because it affects a great number of scholars and this picture is frightening to say the least. Barnett & Whiteside, rightly points out, that education faces supply and demand impacts. Scholars with special needs emerge like orphans, infected children and those that are associated with the epidemic are discriminated against. Key role players (head Masters and Mistresses) in the education system, who die, will soon be difficult to replace (Barnett & Whiteside, 2002). The business sector is also not exempted from the wrath of the epidemic, the Botswana example, Debswana is a typical example we should always refer to when we discuss the impact of the epidemic in Southern Africa (Augustyn, JCD. (2007) Science and Approaches to using the Scientific Method: Unpublished Notes. University of Stellenbosch).

### 6.1. Definition of adherence

Adherence may be defined in many different ways but the extent to which a patients' behaviour coincides with prescribed regimen as agreed upon through a shared decision making process between the client and its health care provider. The patient takes an active part in this collaborative process by understanding and implementing the treatment plan. It is a result of a complex interaction between the patient, a prescribed medication and the health system (Garcia, Schooley & Badaro, 2003).

The event of potent antiretroviral treatment has changed the way people in the worlds' richest countries view the epidemic of HIV/AIDS. These treatments do not provide cure and present new challenges of their own with respect to side effects and drug resistance. These have dramatically improved rates of mortality and morbidity, quality of life, revitalised communities and perception around HIV/AIDS, from a plague to a manageable chronic illness. Various initiatives the world over are being carried out to increase the availability of (ARVs') antiretroviral treatment and other recognised drugs so as to manage other

opportunistic infections related to HIV/AIDS. Important to note is that, maintenance of viral suppression requires maximum patient adherence to the antiretroviral therapy and irrational use may result to the spread of viral resistance to medication, decreased quality of life progression to HIV/AIDS, death and will require regimen change hence increasing treatment costs.

Adherence is therefore:

A process whereby a patient takes an active role collaborates with his/her health care worker through the implementation of the agreed upon and shared medication or treatment plan. A free supply of antiretroviral therapy does not necessarily ensure high levels of ART adherence as we will see shortly. Eastern Cape MEC, Sicelo Gqobana, recently reported that, "Based on prevalence of HIV/AIDS], it is estimated that 239 935 clients are eligible for ARV medication, but not all of those people currently receive medication, some of the clients [who were eligible to receive ARV medication] have not as yet presented themselves to our facilities", he said (Daily Dispatch, Thursday, June 21, 2012). This statement by the EC MEC of health, further shows the importance of educating communities about the importance of getting onto ARV treatment as soon as is necessary.

There is a debate regarding adherence and compliance according to Mehta, Richard & Graham, 1997. They maintain adherence to be that which relates to the extent to which the patient follows a prescribed regimen while compliance is an overall evaluation of adherence. They used the terms adherence and compliance interchangeably in their study. They further preferred to use the term adherence since for them it was acceptable and not derogatory (Mehta, Richard & Graham, 1997). Gordillo et al (1999) described good adherence as having more than (90%) ninety percent of the prescribed pills. Turner (2002), pushed consumption or taking of one's regimen to 95% as the level of the cut off for good adherence to antiretroviral treatment by an HIV infected patient. Age is a factor that can affect adherence.

Adherence is a single most important aspect of antiretroviral therapy provision defined as intake of 95% of prescribed medications (Turner, 2002). As much as it is important to make sure that patients are adherent to medication, chronic treatment poses challenges of adherence (UNAIDS, 2009). Adherence - taking your HIV treatment at the right time and in the right way is mainstay to the success of HIV treatment. The goal of ART is an undetected viral load, taking all or nearly all of your treatment correctly gives you the best chance of achieving this outcome. Many people though, find it hard to achieve such high levels of adherence. Lower levels of adherence means that viral load can increase and this can also lead to the development of drug resistance. Strong social support is always linked to high levels of adherence. With proper treatment and adherence, more and more HIV - individuals are living long and healthy lives. With the right treatment, care and adherence many HIV+ (HIV - positive) people have an excellent prognosis. HIV treatment can mean a longer and a healthier life. You'll get the most benefit from your treatment if you take it properly, that is

called adherence. Simply put, adherence means taking your pills in the prescribed doses at the right time, in the right amounts and in the right way.

## 6.2. Age and adherence

One of the characteristics of good adherence was increased age, except in the most elderly namely those of 75 and above (Mehta, Richard & Graham, 1997). Patients less than 35 were less likely to report adherence to antiretroviral therapy though they did not find a reason why people less than 35 years of age would not adhere more to antiretroviral therapy. They maintain, age was not a factor that could have been a culprit on its own, they therefore postulated that for those under 35, non adherence could have been the result of a combination of low economic power since they could be unemployed and unmarried. Higher age was a risk factor to non adherence (Karcher et al, 2007).

## 6.3. Education and adherence

Lower education, is a predictor of poor adherence (Golin et al, 2002). Non adherence was statistically associated with lower schooling (Karcher et al, 2007 & Bonolo et al, 2007). Less than a University education was associated with lower adherence (less than 90%). Uzuchukwu et al, 2009, maintained that those without formal education were less likely to report adherence to antiretroviral treatment. African American (black Americans - race) led to poor adherence according to Kleeberger et al, 2001, this finding was disputed by Golin et al, 2002.

## 6.4. Income/employment and adherence

The United States of Americas' income of less than 50.000 US Dollar per annum, led to poor adherence (Kleeberger et al, 2001). Lower income is a predictor of poor adherence (Golin et al, 2002). Sarna et al, 2008, concurred that unemployment is associated with lower adherence, which is less than 90% adherence. Adherence is associated with the correct knowledge of side effects and correct knowledge which perceived effectiveness of the antiretroviral therapy among other things (Wang & Zunyou, 2007).

## 6.5. Remedial actions for adherence

Johnson and Witt (2007) highlight(s) a number of interventions carried out successfully in high income and resource constrained settings. These include interventions which may be summarily classified in the following categories:

- Social support
- Financial incentives
- Technological devices
- Knowledge and counselling



- Directly observed therapy also known as DOT including modified DOT and directly administered anti - retroviral therapy (DAART). This intervention appears to promise as an intervention to improve adherence to therapy in HIV and AIDS. Anti – retroviral therapy is life – long rather than limited as it is the case in tuberculosis.
- Additional effective interventions combined elements of each of the categories outlined here and all these interventions could be replicated in resource constrained settings.

## 6.6. Factors affecting adherence

Non adherence to medication is common among patients with chronic diseases. This is due to a number of varying reasons, some justified and some not. These reasons or challenges vary from economic, ethical and political commitment from governments. The shifts to combination therapies for treating the immunodeficiency virus, HIV infected individuals have increased adherence challenges for both patient and health care workers. Estimates of average rates of non-adherence to medication or antiretroviral therapy, ranges from 50% to 70%. Adherence rates of 80% are associated with detectable viremia in a number of patients. Major factors associated with non - adherence appears to be patient related, including substance and alcohol abuse.

Inconvenient dosing frequency, dietary restrictions, pill burden, side effects, patient healthcare worker relationships and the system of care are all factors that play a contributory factor in non - adherence. Adherence to medication therefore, can only be improved by the clarification of the treatment of regimen and tailoring it to patient lifestyles. For HIV and AIDS to spread and multiply at significant rates, based on the world wide experience of the disease, that poverty and increased sexual activity must jointly permeate a society. The two are directly related because, as we have seen, poverty drives woman and young girls into transactional sex. The fact is, without a strong economy, the country is doomed, that is, HIV/AIDS cannot be properly addressed. Most businessmen and business woman at the places of work, concur that their greatest asset is the loyalty and devotion of those who work for them. The author is therefore contending that economic factors contribute to non - adherence.

Doctors in the United States of America wanted to see what effect pain, mood problems such as anxiety, depression and substance use had on clinic attendance, they monitored 1500 people over a year. Over one third of participants reported pain at the start of their study. Results showed that the presence of pain reduced the likelihood of regular clinic attendance by 50%. This was the case of people that were not misusing drugs or alcohol. Pain has important implications for individual and public health outcomes according to the American researchers ([hivweekly@nam.org.uk](mailto:hivweekly@nam.org.uk)).

## 6.7. Strategies for improving adherence

There is a great need for the adoption of proven scientific tactics that help patients adhere to ART medication in the process of minimising adherence barriers. The best regimen for each patient's lifestyle should be selected. Evaluating patients' willingness to have family members or even friends providing reminders for taking medication is fundamental. Assessing patients' ability to adhere to regimens by using practise pills such as vitamins or even candies can be useful. Patients need to be encouraged or advised to make use of alarms on their hand held devices such as cell phones and pagers. Providing or encouraging use of pill boxes to take with would minimise the chances of forgetting taking medication when travelling or not at home.

The anti - retroviral therapy (ART) has given hope to people living with HIV/AIDS (PLWHA) and plays a major role in improving their quality of life. The effectiveness of these treatments however, is directly related to the level of adherence and commitment to them. An understanding of factors affecting adherence is essential to develop interventions that will improve adherence to therapeutic regimens among people living with HIV/AIDS. Non - adherence to highly active anti - retroviral therapy (HAART) is considered one of the most threatening risks for the effectiveness of the treatment of the person living with HIV/AIDS on the individual plan and for the resistance - virus dissemination on the collective plan. This study is also aimed at favouring the creation of strategies that improve the adherence of patients to highly active anti - retroviral therapy (HAART).

## 6.8. Adherence outcomes

Adherence to antiretroviral therapy has great outcomes. NAM ([aidsmapnews@nam.org.uk](mailto:aidsmapnews@nam.org.uk)) reports that the hard hit Sub - Saharan Africa is likely to see a more than 200% increase in the number of older people living with HIV in the next thirty (30) years. This outcome is as a result of improvements in life saving treatment, i.e. the Anti - retroviral therapy. With proper treatment and adherence, more and more HIV+ individuals are living long and healthy lives. With the right treatment, care and adherence many HIV positive people have an excellent prognosis.

Adherence to modern HIV therapy is unaffected by the number of pills or the number of daily doses, reports the Italian research. Near perfect adherence needed to suppress cell - associated Human Immuno - deficiency Virus (HIV). It is fundamental to note that complete adherence to anti - retroviral therapy is needed to ensure suppression of cell - associated HIV, investigators from the Netherlands reports in the online edition of the Journal of Infectious Diseases. Whilst' there is no cure for HIV/AIDS at this point in time, NDH (2004) considered that adherence to ART is essential to maintain long term health benefit and avoid development of drug resistance. Poor adherence can lead to public health implications. Resistance to ART can be transmitted to from one person to another during high risk activities which limits treatment options for the newly infected person.

## 6.9. What is social support?

Social support can be defined in many varying ways, namely:

- Thus, social support is defined as a network of family, friends, neighbours and community members available during the time of need.
- Having friends and other people including family to turn to in time of need or crisis to give one a broader focus and positive self (boosts ones ego) image.

These provide moral, psychological and even physical support to the patient. Here, health care workers are included that journey with the patient and dispense drugs for the person living with HIV/AIDS. Social support also enhances the quality of life and provides a buffer against adverse life events. Social support also covers the perception that the patient is cared for, has assistance available from other people and that one is part of a social system or network. Here, the author would like to include acceptance, for the patient feels accepted and understood by all around them. The use of treatment partners boosts the chances of achieving an early undetectable viral load, as investigators in Nigeria report in the online edition of the journal of Acquired Immune Deficiency Syndrome.

This support is fundamental if we are to succeed in stemming the tide of HIV and AIDS in the world. These supportive resources can be:

### 6.9.1. Emotional

Empathy, concern, affection, love, acceptance, understood, encouraging and affirming an individual living with HIV/AIDS as they continue to take medication, would be typical moral and emotional support provided to the patient.

### 6.9.2. Tangible

Tangible assistance should or can also be given to a person living with HIV and AIDS and here we refer to:

1. Providing financial support.
2. Material goods (could be food, sanitary towels).
3. Instrumental support encompassing the concrete, direct ways people support those patients that are in need. This type of support is also referred to as instrumental.

### 6.9.3. Informational

Provision of advice to those who are HIV infected is one of the paramount ways in which they could be supported. This is fundamental, should be valued and rendered to persons that are HIV positive.

#### 6.9.4. Companionship

We all need company, PLWHA are not different, and they need companionships perhaps more than we all do. Companionship allows one to feel accepted, wanted, valued and belonging. All these enhance a sense of companionship.

Social support has been found to promote psychological adjustment in conditions such as, chronic high stress illnesses such as HIV and AIDS. Patients with low social support are found to have high stress levels and report more sub - clinical symptoms of depression and anxiety than those patients with high social support. In addition, those that are less supported have high rates of mental disorder than those with high social support. A social support environment is critical for those infected with HIV/AIDS (PLWHA). Providing access to ART is itself support to patients and it is an important phenomenon for limiting HIV infection.

Social support has been proven to be effective in the reduction of the psychological and physiological consequences of stress and may enhance immune functioning. Social networks, whether formal (Church or a social club) or informal (meeting with friends) provide a sense of belonging, security and community. These have been proven to provide a safe heaven or literal life savers. Patients that get supported by groups such as for - instance, church members and confreres' at work, are less vulnerable to ill health and premature death. There is also a strong tie between social support and measures of wellbeing. Those with close personal relationships are said to cope better with various stresses including bereavement, job loss, rape and even illness.

#### 6.10. International Studies

The use of HAART has changed the landscape of human immunodeficiency virus infection and AIDS patients are not only living longer but are leading relatively healthier lives. To have this stable life style people using HAART need to maintain a high adherence rate. The maintenance of high adherence is a new challenge to clinicians and service providers. Despite the good adherence missing dose in highly adherent HIV/AIDS patient is probably the result of the interaction between multitudes of factors.

Results of the study conducted in China with high adherence rate to HAART in a cohort of Chinese male HIV/AIDS patients concluded that the support of the patients family, spouse and friends may be important, though a statistical significance association could not be established (Lee, Ma, Chu & Wong, 2007). Mellins et al, 2004 in their study examined child psychosocial and care giver of family factors influencing adherence to antiretroviral treatment in perinatal human immunodeficiency infected children. Families in which the care worker reported missed doses (non - adherent) were compared with families who reported no missed doses (adherent). The findings were that efforts to improve children's adherence to complex anti - retroviral regimens requires addressing developmental,

psychosocial and family factors. Psychological emotions like anger also have an impact on adherence.

The relationship between psychological variables and medication adherence is still poorly understood. A better understanding of the psychological determinants of compliance might allow for the identification of patients who are at higher risk of non - adherence.

To sustain adherence to highly active antiretroviral treatment, these patients might benefit from increased clinical attention or intervention (Leombruni, Fassiano et al, 2009). Patients' adherence to treatment is a crucial and a fundamental issue for the long term success of antiretroviral therapy. Psychosocial factor plays an important role as determinants of non-adherence. Patient adherence including taking medications, keeping appointments, undertaking recommended preventative measures such as dieting, exercise, substance non-use and changing possibly deep seated behavioural patterns (Fomundam, 2007). Several psychosocial problems influence adherence to anti - retroviral treatment of HIV/AIDS, the relationship between health care providers and patient, some disease characteristics, the therapeutic context. Becoming HIV positive often means living under difficult times, losing a job and friends, stigmatisation and top of all that abandonment of life projects. To regain health and quality of life, it is necessary to follow the right regimens of anti - retroviral therapy and to ensure good health and durable undetected levels of viral load and steady increase of CD 4 cells In many people with HIV/AIDS, quality of life means having a job, being reintegrated in different social groups and being accepted and loved as any human person.

The medical intervention is to provide medical support and give the anti - retroviral' and also provide psychosocial support (Von Guy Bertrand Tengpe, 2005). Australian investigators found that money problems lead to poorer adherence to HIV and AIDS therapy ([aidsmapnews@nan.org.uk](mailto:aidsmapnews@nan.org.uk)), this reality has led to the following findings:

1. Difficulties meeting pharmacy costs and those incurred travelling for clinic appointments are associated with interrupting/stopping HIV therapy.
2. Delaying and stopping were significantly associated with meeting pharmacy costs and difficulty meeting travel costs. Anti - retroviral treatment requires high levels of adherence as alluded to in this research study.
3. Overall (14%) reported interruption.

Australia provides a Government subsidised anti - retroviral treatment to all its citizens as well as those with the right to permanent residence. Patients in Australia are only required to pay only a contribution towards the costs of their medication. Doctors at Saint Vincent hospital made varying findings concerning the issue of interruption of medication or its cessation and those were recorded as follows:

1. 6% recorded difficulty in paying for travel costs.

2. 14% reported delaying obtaining medicines because of pharmacy costs whereas 9% reported having stopped therapy because of exorbitant costs of medicines.
3. 19% reported that it was difficult or very difficult to afford pharmacy dispensing costs.

### 6.11. South African Studies

The relationship between the clinician and the patient must accommodate the need for ongoing education, respect and support required in demanding regimens like the ART. The clinician should restrain his/her enthusiasm to commence therapy and anxiety until both are prepared to meet the adherent need of the subsequent regimen (Andrews, 2002). Psychosocial support assists with disclosure and the improvement of the quality of life. This is what has happened to Mothers - Mothers, a mentorship programme to pregnant woman and mothers with infants.

They are engaged by mentor mothers who share personal experiences with them, encourage enrolment in the PMTCT and adherence to PMTCT interventions (Aunt, Besser & Mbono, 2006). The use of social support services depends on awareness, availability, accessibility and the level of stigma and disclosure of HIV status. Disclosure of HIV is perceived to be an important factor in enabling HIV positive individual to seek and utilise services and receive the necessary support. The results showed that respondents had preferences in terms of who they disclose to, and that family members were a critical source of social support, providing particularly emotional support (Williams, 2007).

## 7. Aims and objectives

### 7.1. Aim:

The aim of this study is to identify possible factors contributing to non - adherence to anti-retroviral therapy among HIV/AIDS patients and possible ways of improving adherence.

### 7.2. Objectives:

The objectives of the research study is to,

- Identify factors (socioeconomic, social, cultural, political etc, contributing to non - adherence.
- Provide guidelines and possible interventions to improve support structures within communities.
- Provide suggestions and proposals for improving adherence to anti - retroviral treatment in South Africa today.

## Chapter 3

### 8. Methodology

#### 8.1. Design:

The study employed quantitative method of data collection. The study was supposed to have been conducted between August, 2012 and November, 2012 but could not because of ethics requirements of the REC.

#### 8.2. Study sites

The study was conducted in the Philani and Mitford clinics, Municipal districts of Lukhanji and Inxuba Yethemba Sub - districts. Mlungisi is a township of Queenstown, therefore providing a semi-literate population whereas Mitford is a rural village comprising of People living with HIV/AIDS whose husbands are migrant labourers either in Johannesburg or Cape Town. Most people living with HIV/AIDS in this area either come from the Gauteng Province or the Province of the Western Cape. The sample was chosen randomly in the two health centres.

#### 8.3. Data Collection

The study group targeted comprises of adults currently on antiretroviral treatment in both Philani and Mitford clinics in the Province of the Eastern Cape - South Africa. The group was considerably large about ninety in clinics, seventy eight females and twelve males. The method used in this research study was random sampling in studying about 40 (forty) in both centres. The research aimed at ascertaining if patients are willingly taking ART or doing so by the help of a partner, friend, and family member and so on. A questionnaire had been drawn to help collect the required data for it assures accuracy of data and it is anonymous. People were allowed to express themselves freely without the fear of identification. Existing support structures were also covered in the questionnaire.

#### 8.4. Data analysis

Frequency and basic correlation method was employed in data analysis; this was being done in a period of four months.

#### 8.5. Time frame

This study was to be conducted within a period of 4 months, data collection, analysis, report including suggested corrections by the study supervisor but it was delayed as a result of ethics requirements by the REC. The study therefore went over to January of 2013. The study only took off mid December 2012 after the REC had issued its provisional letter to research.

## Chapter 4

### 9. Results

Data was analysed utilising descriptive statistics and were grouped systematically and according to questioning in order to determine adherence levels of patients in both Mitford and Philani Clinics. This helped the researcher make recommendations that could lead to improving levels of adherence in the two medical centres. It is fundamental to mention right from the beginning that these findings show that in every six respondents, one is male. The following findings were made as cited by various respondents to the questionnaire:

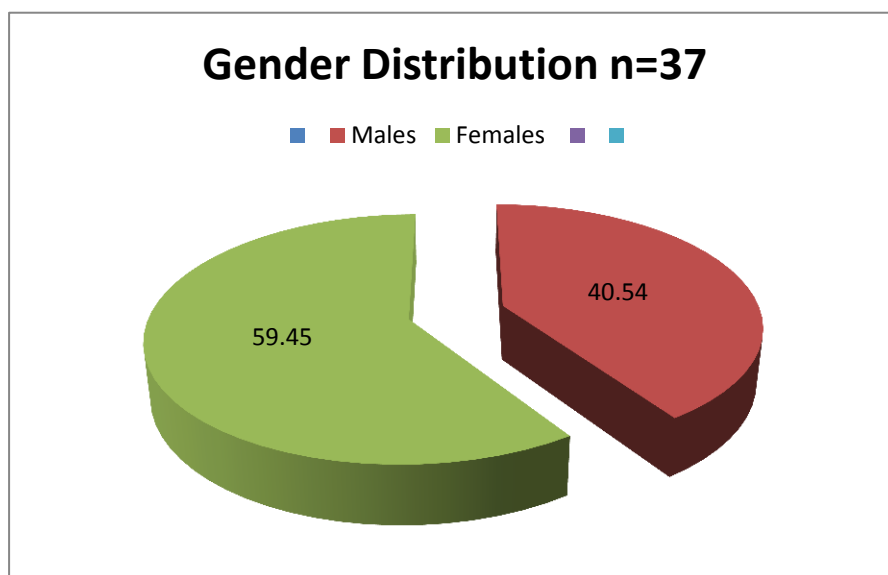
#### 9.1. Socio Demographic Factors Table

**Table 1: GENDER DISTRIBUTION**

	Mitford Clinic n = 20	Philani Clinic n = 17
Male	5	6
Female	15	11
Total	20	17

Illustration of the quantitative findings at the Mitford Clinic reveals one male in every six individuals is HIV positive. Results showed females to be in the majority of those that were HIV positive in both health centres. Mitford clinic had 15 females and 5 male respondents hence the researcher contends that every 6<sup>th</sup> person is male. Philani clinic had 17 respondents in total, eleven females and 6 male respondents. Females therefore can be said to be more vulnerable to the epidemic than male according to these results.

Figure 1: Gender Distribution





Pie chart, illustrating gender distribution of respondents between the two health centres, Mitford and Philani clinics within the Chris Hani district municipality.

**Table 2: AGE DISTRIBUTION**

	Mitford Clinic	Philani Clinic
	20 - 50	18 – 37

Twenty questionnaires per clinic were distributed among the respondents; only seventeen were returned from Philani clinic with the decline of three respondents. The response rate at Mitford was 100%, that is, all questionnaires were returned. Respondents of Mitford were longer on antiretroviral treatment and the age of respondents is advanced compared with that of Philani respondents. Respondents of Mitford clinic are between the ages of 20 and 55 whereas Philani respondents are between the ages of 18 and 37 years. The response at Philani was 75% since questionnaires were not all returned. Only 17 of the 20 questionnaires were returned.

The following graph illustrates the following age distribution of respondents of both health centres between the ages of:

- 3 = 8.1%, respondents between 18 - 25 years.
- 9 = 24.32%, respondents between 26 - 35 years.
- 12 = 32.43% respondents between 36 - 50 years.
- 9 = 24.32% respondents between 49 - 55 years.

A finding revealed that the age distribution in both health centres indicated that the majority of respondents 12 = 32.2 % fell between the ages of 35 and 50 years.

Figure 2: Illustrating age distribution

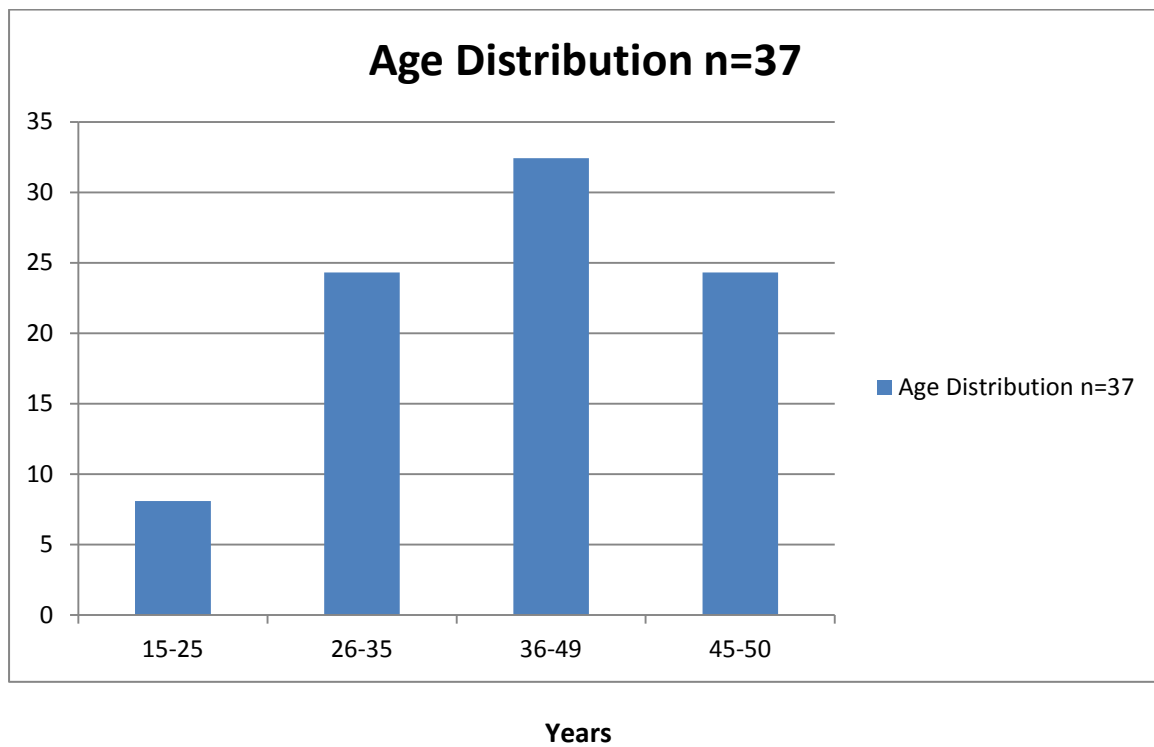


Table 3: Marital Status

	Mitford Clinic	Philani Clinic
Married	4	3
Divorced	2	3
Widowed	3	2
Separated	2	4
Cohabiting	9	5
Other	0	0
Total	N = 20	N = 17

Quantitative findings of respondents show an increase of HIV positive individuals among those that are cohabiting. This seems to be the trend in both health centres respectively. This could be indicating that a high rate of HIV prevalence is in the members of the community that are cohabiting. It would be interesting if one would look at other research programs and determine if this finding is similar.

**Table 4: Income Distribution**

	<b>Mitford Clinic n = 20</b>	<b>Philani Clinic n = 17</b>
No income	11	3
Gov/Disability Grant	7	9
R 800.00 - R 1300.00	2	1
R 1300.00 - R 1600.00	0	2
R 1600.00 - R 2000.00	0	2
R 2000.00 - R 2500.00	0	0
Total	N = 20	N = 17

Quantitative research reveal that a great majority of respondents had no income whatsoever especially in the rural Mitford. A great majority of those that have some sort of income seems to be the income that is provided by the state in the form of Government grants. This seems to be the case especially in the urban clinic that is Philani. These findings further reveal that there needs to be awareness campaigns in rural areas to sensitise people about grants available from state agencies for people in these conditions or those that qualify depending on the procedure if there is any. These campaigns however should not only be monetary oriented but should be also educating communities about the pandemic itself.

**Table 5: Education Distribution**

	<b>Mitford Clinic</b>	<b>Philani Clinic</b>
Grade 0 - 4	<b>10</b>	<b>8</b>
Grade 5 – 10	6	3
Grade 10 – 12	4	6
Diploma	0	0
Degree/Bachelors	0	0
Total	N = 20	N = 17

Quantitatively, the research shows that the rate of HIV prevalence is greater in uneducated communities; in this study both health centres confirm this truth. This particular study indicates that HIV prevalence is greater in both poor and uneducated communities. It would be interesting if the study was also carried out in private facilities where the literate go for their health needs. This is unfortunate since this study was carried out in these public facilities. The scope of the study covered only Philani (Semi - urban setting) and Mitford (Rural setting) clinics.

**Table 6: Residence Distribution**

Residential Area	Combined n = 37	Mitford Clinic n = 20	Philani Clinic n = 17
Urban	17		17
Rural	20	20	
Total	37 = 100%	N = 50%	N = 50%

Mitford clinic is located in the Administrative district of Ntabethemba within the Chris Hani greater municipality. It is served by 3 professional nurses, six community health care workers. Respondents returned all 20 questionnaires. Mitford clinic covers a population of approximately 3 190 inhabitants according to 2011 statistics. Philani clinic is in Mlungisi, a township of Queenstown. 17 out of 20 Questionnaires were returned. Philani is under the Lukhanji sub - district. It is served by six professional nurses, one staff nurse and four community health care workers and 1 lay councillor. Philani clinic serves a community of +- 2 080 inhabitants according to 2011 statistics.

**Table 7: Employment Distribution**

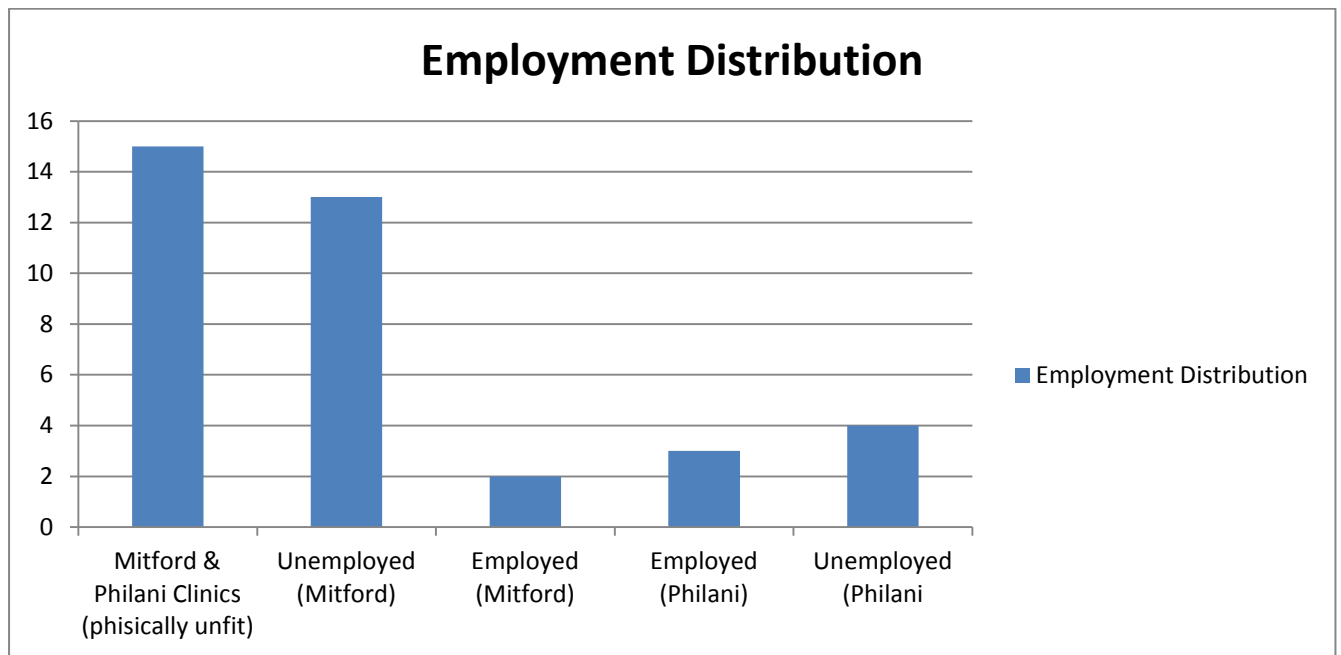
	Mitford Clinic n = 20	Philani Clinic n = 17
0 - 3 months	0	2
3 – 6 months	7	2
6 – 12 months	2	1
1 – 3 Years	0	3
Unemployed	11	9
Total	N = 20	N = 17

Quantitatively, this research study shows that most of the respondents in the Mitford clinic are not working, those that are working are seasonal workers who work for government programs such as EPWP, who work for three to four months in rotation so as to accommodate a lot more others. Philani clinics' findings; indicates a few of the respondents who work in town with contractors and as domestic workers.

The following graph illustrates:

- Employment status of respondents.
- Most respondents employed are respondents of Philani clinic since Philani clinic is in an urban Queenstown, Mlungisi Township.

Figure 3: Showing employment status



**N = 37**

**Table 8: Health Status**

	Mitford Clinic	Philani Clinic
Poor	1	2
Fair	6	3
Good	3	9
Very Good	10	3
Total	N = 20	N = 17

Quantitatively, this study reveals that a number of respondents report feeling healthier as opposed to those that are not feeling too good. This finding therefore is a confirmation of the effectiveness of the anti - retroviral treatment. Adherence therefore becomes a necessary phenomenon in the struggle against HIV and AIDS.

**Table 9: Disclosure Distribution**

	Mitford Clinic	Philani Clinic
Mother	12	9
Father	0	0
Sister	2	1
Brother	1	0
Friend	2	4
Partner	3	3
Other	0	0
Total	N = 20	N = 17

According to this study, a great majority of respondents trust their mothers since they disclosed to them. Mothers probably handle their children better which makes a great sense. HIV education therefore should be made available to mothers as much as it should be made available to our communities generally.

**Table 10: Period on medication:**

	<b>Mitford Clinic</b>	<b>Philani Clinic</b>
0 - 3 months	2	6
4 - 7 months	3	3
8 - 13 months	15	8
Total	N = 20	N = 17

Research study indicates that a great majority of respondents are longer on the anti - retroviral therapy and this is the case in both health centres. All respondents report positively on their health status and their medication. Qualitatively, anti - retroviral treatment receives thumbs up from all respondents and in both health centres. No complications are reported except in some cases where respondents report failure to take medication because of lack of food after taking medication.

**TABLE 11: FINDINGS RELATED TO MISSING CLINIC VISITS AND REASONS THEREOF**

<b>Missing clinic visits</b>	<b>Combined n = 37</b>	<b>Mitford Clinic n = 20</b>	<b>Philani Clinic n = 17</b>
Yes	19	13	6
No	18	7	11

A great majority of respondents at Mitford clinic, misses' doses as a result of lack of food according to the survey (their responses) as clearly illustrated here below. This is as a result of lack of job opportunities, social support and no access to government agencies such as Sassa as opposed to the community of Queenstown which has job opportunities and has access to government grants in droves as illustrated here above.

**TABLE 12: REASONS FOR MISSING CLINIC VISITS:**

<b>Reason</b>	<b>Mitford Clinic n = 20</b>	<b>Philani Clinic n = 17</b>
Very sick	3	3
No help	4	0
Family obligations	5	4
No money for transport	8	2
Busy at work	0	8
Other	0	0
Total	20	17

Quantitative findings of reasons for missing clinic visits cited vary from one health centre to another. This is due to the different economic reasons of the different scenarios cited. In Mitford clinic a great majority of those missing visits is due to transport fees for those that need transport to get to the clinic and at Philani the reason is because of work since they have access to markets in terms of industries.

**TABLE 13: FAILER TO TAKE MEDICINE**

	<b>Mitford Clinic n = 20</b>	<b>Philani Clinic n = 17</b>
Simply forgot	1	0
Feared side effects	4	3
Felt better and saw no need	0	2
No food after medication	12	0
Away from home for access	2	5
Did not understand instruction	1	0
Feared being seen by com/nity	0	3
Ran out of medication	0	0
Other	0	4
Total	20	17

This is a quantitative illustration of findings from the respondents who missed taking their medication in the last three months as the question was phrased in the questionnaire. Various reasons were cited for missing either appointments or taking medication.

**TABLE 14: SUPPORT USED AS A REMINDER**

	<b>Mitford Clinic n = 20</b>	<b>Philani Clinic n = 17</b>
Clock	4	2
Pill box	2	4
Pill count	0	1
Cell phone	7	10
Diary chart	1	0
Electronic devise	2	0
Treatment buddy	4	0
Other	0	0
Total	20	17

Cell phones seem to be most popular with most respondents in both health centres. It stands to reason because almost everyone has a cell phone and it is easy to use. Respondents at Philani clinic are self reliant since they are more better literate than those of Mitford. HIV education also seems to be more advanced at Philani clinic; this is as a result also of health care workers that they seem to have access to as compared to the few of Mitford clinic.

**TABLE 15: ADHERENCE IN TAKING MEDICATION**

	Mitford Clinic n = 20	Philani Clinic n = 17
Fair	3	6
Poor	0	0
Good	1	5
Excellent	6	4
Very Good	4	2
Other	6	0
Total	20	17

Findings in this section of faithfulness seem to tally with findings in the section that dealt with respondents' state of health. If respondents feel healthy then it follows that they will be faithful in taking their medication. Again, if these results are accurate, then encouraging adherence to anti - retroviral therapy becomes necessary.

**TABLE 16: DIFFICULTIES IN TAKING MEDICATION:**

	Often	Always	Never	Rarely
Loss of appetite	6			
Money Problems		14		
Problems at work		4		
Problems with taking medication		7		
Feeling nauseous	6			

These findings are findings of respondents in both health centres. Respondents that report nausea are those that also report taking their medication not in the prescribed periods. This therefore means that patients need to take their medicines at prescribed periods without failure. The question of money seems to be the common factor and especially when coming to nutrition. This therefore again calls for the question of sensitising patients to government agencies that could be of help to sick people in our communities.

**Table 17: Receiving assistance with medication:**

	Mitford clinic	Philani clinic
<b>Family</b>	7	3
<b>Friend</b>	3	1
<b>Partner</b>	5	4
<b>Employer</b>	0	0
<b>Nurse or Doctor</b>	1	2
<b>Children</b>	0	2
<b>Patient Advocates</b>	4	5
<b>Total</b>	N = 20	N = 17



Health care workers (Patient advocates) seem to be playing a pivotal role in encouraging patients with taking their medication. In this research study they feature strongly as being productive and second to them is family members of respondents as well as partners for those who have partners. This illustrates the role that society has to play in the fight against HIV and AIDS.

**TABLE 18: OTHER ISSUES**

	<b>Mitford Clinic n = 20</b>	<b>Philani Clinic n = 17</b>
Stigmatisation	9	6
Craving alcohol	0	3
Sexual Problems	3	2
Emotional Problems	5	4
Relationship Problems	3	2
Total	N = 20	N = 17

Stigma seems to take centre stage in the fight against the pandemic of HIV and AIDS according to these findings. In both health centres this seems to feature greatly, therefore, HIV education needs to cover the question of stigma that is carried by the pandemic.

**TABLE 19: FEELINGS REGARDING THE SICKNESS**

	<b>Mitford Clinic n = 20</b>	<b>Philani Clinic n = 17</b>
Depression	8	6
Acceptance	2	1
Positive	6	4
Gratefulness	0	0
Hopelessness	2	2
Mixed feelings	2	4
Other	0	0
Total	N = 20	N = 17

The data collected for the qualitative element of the study regarding the feelings of respondents towards the sickness or pandemic of HIV and AIDS and according to the findings of this study, the following sub - themes emerge:

- Knowing ones' HIV status evokes feeling of depression/ HIV sickness is depressing. (Numbers of this research study reveals this truth).
- HIV and AIDS is not acceptable/respondents find it hard to accept and
- HIV Positive individuals feel hopeless.

**TABLE 20: CHANGES SINCE TAKING MEDICATION:**

	Mitford Clinic n = 20	Philani Clinic n = 17
Loss of weight	3	1
Feeling rejected	1	1
Feeling in control	3	3
Regaining weight	8	7
Feeling the sting of stigma	5	5
Other	0	0
Total	N = 20	N = 17

Quantitatively in this study, a great number of respondents report having gained weight in both health centres. The researcher does not know whether this is good or bad for the health of the patients. The researcher will read further so as to establish if this is good or bad.

## Chapter 5

### 10. Conclusion and recommendations

The AIDS epidemic is substantial and rapidly a growing problem both for South Africa and the world is no longer a matter of dispute. Adherence, taking one's treatment properly is very important for the success of the antiretroviral treatment. The best outcomes are seen in people who take all or nearly all (95%) of their doses at the right time and in the right way. Poor adherence is associated with an increase in viral load, a fall in CD4 cell count and an increased risk of developing resistance or becoming very sick. Research conducted in smaller countries show that not having enough money for travelling to clinic appointments/to pay medicines is associated with poor adherence to antiretroviral medication.

Results of this research study should help both medical centres in which it was carried out from and ultimately aid the Eastern Cape Provincial DOH in Bisho, which expects a report on the findings three months from the date of the issuing of the letter of agreement to the research. This information should also aid the greater Chris Hani District Municipality healthcare centres in the fight against the pandemic. The outcomes of this study should further inform future strategies aiming at improving adherence to antiretroviral regimens. This conclusion was informed by socio - demographic factors that led to the outcomes of this research study as discussed and shown here. Data was collected through utilization of a carefully drawn up questionnaire as stated in the abstract. Recommendations that will follow are informed by the results obtained through the study of socio – demographic factors realized when collating data from the questionnaires.

## 10.1 Support systems

Support of PLWHA has become an imminent feature in this study if success is to be achieved in the fight against HIV and AIDS. It has also become clear that ART alone cannot succeed without all the important suggestions cited in this study, one of them being support structures that need to be galvanised for this important venture in the fight against the epidemic of HIV and AIDS. Support systems therefore, play an important role in the struggle against the epidemic. Government alone will not succeed in fighting the epidemic however; Governments who have taken the lead in this struggle have to be lauded. Some of these Governments include that of South Africa and Namibia.

These two countries have made significant contributions in the fight against HIV/AIDS. South Africa, among the many contributions that it has announced, grants almost every patent regime one of the world's most lenient. While pharmaceuticals cash in, patients face staggering healthcare costs and medicine like cancer treatments, third – line antiretroviral and treatments for drug resistant tuberculosis is often priced out of reach. Namibia on the other hand should be applauded for taking ownership and providing financing in the fight against HIV/AIDS in that country. These are a few examples that are worth mentioning in the roles that different Governments take in the fight against the epidemic.

Support should be fostered among the following:

Financial support can be defined as social (tangible) support vital for assisting PLWHA in their struggle to adhere to ART. Support should be further availed through medical centres, friends, family, neighbours, partner etc. All other forms of support are essential, from emotional, tangible, informational and moral.

## 10.2. Recommendations

The research study employed both the quantitative and qualitative methods of study. The qualitative approach provides the in depth insight into patients' experiences with ART. The study however, relied on experiences of 37 respondents from 2 health centres. The study has enabled the researcher to determine factors affecting adherence cited here to be namely: Financial support, family, friends, neighbours, partner and even healthcare workers in CHC's. The results of this research paper cannot answer conclusively and sufficiently the research question on the determination of factors affecting adherence in both Mitford and Philani health centres. This empirical evidence is based on the size of the sample. The researcher would like to make the following recommendations as determined by the results of the study.

The National Department of Health has made a good start in scaling up ART and this is widely appreciated. It has further taken strides in its promise to provide a single dose in the next few years. Training of adherence counsellors and community sensitization become essential moving forward. Continuity of education on adherence to healthcare workers,

counsellors and patients alike becomes essential to ensure the maximum health benefits of antiretroviral treatment. Counselling of PLWHA, need to be intensified preferably by trained counsellors. This will empower patients with knowledge that will lead to improving the rate of adherence to ART. Social support structures need to be mobilised and patients must be encouraged to utilise them as much as is possible for their benefit.

Social support featured strongly during this study since some did not have help when they needed it. Missing of visits to clinics was as a result of patients that needed help either monetarily or physically when sick. It also became necessary that counsellors should receive adequate education with the antiretroviral therapy so as to be able to provide guidance to patients under their supervision. Information, such as the information in this study could be of help if availed to healthcare workers for the purposes of both sharing and education of those entrusted to them. These results could also be of help to the sad communities and the Department of Health in the EC, if availed to them. The community should be educated about HIV/AIDS and the role that it should play. Education should further include the availability of ART in CHC's.

Enhancing the psychological makeup of a care giver is of paramount importance. HIV awareness and prevention campaigns should be intensified. Capacitating poor households must be promoted through the implementation of income generating schemes. Government should attend to problems experienced when applying for Government grants. Food insecurities should also be addressed as part of emerging ART programmes. Counselling should be intensified on patients starting ART with emphasis on adherence to antiretroviral treatment. There is need to market treatment, that is, to make it appealing and follow ups made so as to ascertain problems arising as a result of side effects. Strategies should be devised that assist patients to remember taking medication. Achieving all these suggestions will lead to success in curbing the rate of non – adherence to antiretroviral therapy. This however, needs a joint effort by all stake holders as cited in the paper.

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## Appendix 1

**INFORMED CONSENT FORM**

**You are invited to participate in a study conducted by Lawrence Kewu as part of a dissertation as an MPhil student (HIV/AIDS Management Centre) at Stellenbosch University.**

**You were selected to participate in this study as you are part of patients receiving social support from the Patients Advocates. Questions will focus on the perceptions, attitudes and roles of patient advocates as social support structures in anti - retroviral treatment adherence. The researcher will use a questionnaire and take notes during the interviews.**

**PURPOSE OF THE STUDY: the purpose of the study is to determine factors affecting adherence to anti - retroviral therapy in People Living with HIV/AIDS (PLWHA).**

**PROCEDURES: The study will involve answering a questionnaire that will not take longer than 25 minutes to answer. Questions will focus on matters related to adherence and to social support structures available to you. You will answer the questionnaire in a setting most comfortable to you.**

**POTENTIAL RISKS AND DISCOMFORTS: The study concerns itself with experiences, barriers, feelings and perceptions that may provoke unpleasant memories to recall causing some discomforts. The probability and magnitude of discomfort anticipated in the research are not greater than those ordinarily encountered in daily life. There are no risks from your participation in the research.**

**BENEFITS: You will derive no personal benefits to the study. The study will benefit others by enabling social scientists learning about barriers and factors affecting adherence to anti - retroviral therapy. This study may also benefit others when availed to health professionals learning about the importance of adhering to medication and social support to people living with HIV and AIDS.**

**PAYMENT FOR PARTICIPATION: There will be no payment for taking part in the research.**



**CONFIDENTIALITY:** Information provided will remain both in confidence and anonymously. Information given can only be disclosed with your permission. Your name will not appear in any report or publication of the study. Access to research data is only accessible to the study supervisor and those he works with. Notes and any other identifying participants' information will be kept in a locked safe in the personal possession of the investigator. Data will be destroyed on completion of the project.

**PARTICIPATING AND WITHDRAWAL:** Participation in the study is voluntarily. You can stop participating in the study anytime, for any reason, if you so decide. Your decision to stop participating, or to refuse to answer particular questions, will not affect your relationship with the researcher. You may refuse to answer any questions you do not want to answer and still remain in the study.

If you decide to withdraw from this study, you should contact Mr. Lawrence Kewu at [kewuvl@vodamail.co.za](mailto:kewuvl@vodamail.co.za) or 082 975 3947. You can also contact Dr. Greg Munro at [greg@sybaweb.co.za](mailto:greg@sybaweb.co.za) or 083 629 2569 who is my study supervisor.

**RIGHTS OF RESEARCH SUBJECTS:** You may withdraw your consent at anytime and discontinue participating without penalty. You are not waiving any legal claims, rights or remedies because of your participation in this research study. If you have questions regarding your rights as a research subject, contact Ms Malene Fouché at [mfouche@sun.ac.za](mailto:mfouche@sun.ac.za) or 021 808 4622/6 at the Division for Research Development.

**SIGNATURE OF SUBJECT OR LEGAL REPRESENTATIVE**

The information above was described to me by.....  
in Xhosa

And I am in command of this language or it was satisfactorily translated to me. I was given the opportunity to ask questions and these questions were answered to my satisfaction. I hereby consent voluntarily to participate in this study. I have been given a copy of this form.

\_\_\_\_\_  
**Name of Subject/Participant**

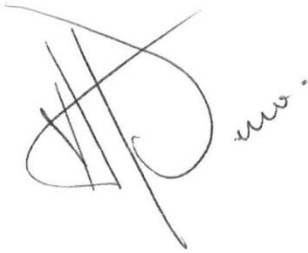
\_\_\_\_\_

**Name of Legal Representative (if applicable)**

\_\_\_\_\_

**Signature of Subject/Participant or Legal Representative**

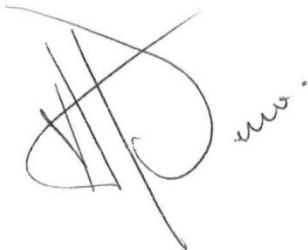
**Date**

A handwritten signature in black ink, consisting of a large, stylized initial 'P' with a vertical line through it, followed by a cursive name.

**SIGNATURE OF INVESTIGATOR**

I declare that I explained this information given in this document to -----  
----- [name of the subject/participant] and/or [his/her] representative -----  
[name of the representative]. [he/she] was encouraged and given ample time to ask me any  
questions. This conversation was conducted in Xhosa and no translator was used.

\_\_\_\_\_

A handwritten signature in black ink, identical to the one above, consisting of a large, stylized initial 'P' with a vertical line through it, followed by a cursive name.

**SIGNATURE OF INVESTIGATOR**

**DATE**

## Appendix 2

## RESEARCH QUESTIONNAIRE - ENGLISH [ANNEXTURE A]

-----  
Name of clinic

-----  
Date

Please answer the following questions by crossing (X) the relevant block or writing down your answer in the space provided. The example of how to complete the questionnaire:

1. Your gender?

Male	<input type="checkbox"/>
Female	<input type="checkbox"/>

2. Your age?

<input type="text"/>	<input type="text"/>
----------------------	----------------------

3. Your marital status?

Married	<input type="checkbox"/>
Divorced	<input type="checkbox"/>
Widowed	<input type="checkbox"/>
Cohabiting	<input type="checkbox"/>
Separated	<input type="checkbox"/>
Single/Never married	<input type="checkbox"/>

4. Please indicate your monthly income?

No income	<input type="checkbox"/>
Gov/Disability Grant	<input type="checkbox"/>
R 800-00 – R 1300-00	<input type="checkbox"/>
R 1300-00 - R 1600-00	<input type="checkbox"/>
R 1600-00 - R 2000-00	<input type="checkbox"/>

R 2000-00 - R 2500-00	
-----------------------	--

5. Indicate your education level/academic achievements?

Grade 0 – 4	
Grade 5 – 10	
Grade 10 – 12	
Diploma	
Degree (Bachelors)	

6. Describe the area in which you live.

Urban	
Rural	

7. If employed, how long have you been employed?

0 – 3 months	
3 – 6 months	
6 – 12 months	
1 – 3 Years	
Unemployed....	

## PART 2. YOUR HEALTH STATUS

8. How would you describe your health?

Fair	
Poor	
Good	
Very good	

9. Have you disclosed your HIV status?

Yes	
No	

10. To whom did you disclose?

<i>Mother</i>	
<i>Father</i>	
<i>Sister</i>	

<i>Brother</i>	
<i>Friend</i>	
<i>Partner</i>	
<i>Aunt</i>	
<i>Other....</i>	

11. Are you on ARV's, for how long?

0 -3 months	
4 - 7 months	
8 - 13 months	

PART 3. TAKING MEDICINES

You might have missed taking your medication at some point in time. So as to improve adherence support that patients are getting. We would like you to answer the following questions about how often have you missed your taking your ARV treatment.

12. How far are you from the clinic? Do you need a taxi/you walk?

Km -----

Taxi	
Walk	
Car	
Bus	

13. In the last two - three months, have you ever felt discouraged from going to the clinic so as to get your medicines?

Yes	
No	

14. What discouraged you from attending a clinic?

Were you:

Too sick to walk	
No help from a friend	
Due to family obligations	
No money for the transport	
You were too busy at work	
Other....	

15. How many times did you take your medicine later than usual or miss a dose?

Two times	
Three times and more	
Once	
None	

16. Why did you miss your medication?

Simply forgot	
Feared side effects	
Felt better and saw no need	
Did not have food after taking pills	
Away from home to be able to take	
I did not understand the Doctors instructions	
Feared, I might be seen by the community	
Ran out of medicine	
Other....	

17. Which support do you use to remember to take your medication?

Clock	
Pill box	
Pill count	
Cell phone	
Diary chart	
Electronic devise	
Treatment buddy	
Other...	

18. In your opinion how faithful are you in taking your medication?

Fair	
Poor	
Good	
Excellent	
Very good	
Other....	

19. Do you experience difficulties in taking your medication?

	<b>Often</b>	<b>Always</b>	<b>Never</b>	<b>Rarely</b>
Loss of appetite				
Money Problems				
Problems at work				
Problems with taking medicines				
Feeling nauseous				
Other				

20. Do you receive assistance with your medication?

Family	
Friend	
Partner	
Employer	
Nurse/Doctor	
Patient advocates	
Children	
Other....	

21. Do you have needs since your receive medication?

Stigmatisation	
Alcohol craving	
Sexual problems	
Emotional problems	
Emotional problems	
Relationship problems	

22. Describe your feelings regarding your sickness?

Depression	
Acceptance	
Positive	
Gratefulness	
Hopelessness	
Mixed feelings	
Other.....	

23. Any Improvements since taking medication?

Feeling in control	
Gaining physical strength	

**Thank you for your cooperation.**



## Appendix 3

**RESEARCH QUESTIONNAIRE - XHOSA [ANNEXTURE B]**-----  
Igama Lekliniki-----  
Umhla

Phendula le mibuzo ilandelayo ngokucacileyo usebenzisa u X kwibloko eyiyo oyikhethayo.

Umzekelo: Phendula njani imibuzo:

Isini?

Ukuba uyindoda okanye umfazi

Indoda	
Umfazi	X

## ICANDELO 1. IMIBUZO GABALALA

1. Ubudala?

--	--

2. Isini?

Indoda	
Umfazi	

3. Utshatile?

Nditshatile	
Sahlukene	
Ndingumhlolo (kazi)	
Ndiyahlalisana	
Anditshatanga	

4. Chaza isimo sakho sezimali?

Andinangeniso	
R 800 - 00 – R 1300 – 00	
R 1300 - 00 – 1600	
R1600 - 00 – 2000	
R 2000-00 – 2500	

5. Ibanga oliphumeleleyo?

Ibanga 0 – 4	
Ibanga 5 – 10	
Ibanga le 10 – 12	
Idiploma	
Imfundo enomsila	

6. Sichazele ngendawo ohlala kuyo?

Yilali	
Yidolophu	

7. Ukubangaba uyasebenza, lingakanani ixesha usebenza?

0 – 3 Inyanga	
3 – 6 Inyanga	
6 – 12 Inyanga	
1 – 3 Iminyaka	
Akusebenzi	

ICANDELO 2. IMPILO YAKHO NGOKUBANZI

8. Imi njani impilo?

Ndiphilile	
Andiphilanga	
Andiphilanga konke - konke	
Ndiphile qethe	
Ndiyaxomoloza	

9. Uthethile ngentsholongwane ugawulayo?

Kumama	
Kutata	
Kudadewethu	
Kumntakwethu	
Kumlingane wam	
Kumhlobo wam	

10. Ngubani omxelele kuqala ngentsholongwane ugawulayo kwaba:

Umama	
Utata	
Umlingane	
Umhlobo	
Umntakwenu	

11. Lingakanani ixesha usebenzisa amayeza azizithomalalisa ntsholongwane?

0 - 3 Inyanga	
4 - 7 Inyanga	
8 - 12 Inyanga	

### ICANDELO 3 MALUNGA NAMAYEZA AKHO

Kungenzeka ukuba ukhe ulibale ukuthabatha usele ipilisi zakho, ingaba kukangaphi ulibala kambe usenziwa yintoni ukuba

Ulibale.

12. Kukude kangakanani kwiziko lezempilo? Ingaba kukufutshane uyaziyela ngenyawo okanye uswela isithuthi ukze ube nokufikelela.

Ndihamba ngenyawo	
Ndiswela isithuthi	

13. Kulenyanga ukhe waphosa kusini na ukuya kwiziko lezempilo?

Ewe	
Hayi	

14. Zinto zini ezingunobangela wokuba ungayi kwiziko lezempilo (Kliniki) kumaxa othe awaya ngawo?

Km -----

Zazingekho izithuthi	
Kungenxa yengxaki zosapho	
Kwakungekho bani wakundipheleka	
Kwakufuneke ndisempangelweni	
Ndandingaphilanga kakhulu	

15. Kwintsuku ezisixhenxe ezidlulileyo mangaphi amatyeli othe awazisela ipilisi zakho ngawo, kambe usenziwa yintoni?

Mabini	
Mathathu nangaphezulu	
Andisakhumbuli	
Linye	
Andikhange konke – konke	

16. Kutheni ukuze uphose ukuthabatha usele amayeza okanye ipilisi zakho?

Bendingekho ekhaya	
Ndalibala nje kungekho nto yimbi	
Andizange ndiyiqonde imiyalelo kagqira	
Ndandingenako ukuzenzela ndigula kakhulu	
Ndandingafuni kubonwa ngabantu	
Ndaziva ndibhetele kakhulu andabona mfuneko	

17. Zinto zini kwezizinto zidweliswe apha ezikunceda ekukukhumbuzeni ukuthabatha amayeza (ipilisi) akho usele

Ngumhlobo	
Ngutata	
Ngumama	
Ngumlingane	
Yi cell phone	
Yi Pill bhokisi	
Kukuzibala ipilisi	
Yi wotshi yaseludongeni	

18. Chaza uzathuze ngendlela otya ngayo.

Ukutya kuyandikrucisa (nauseous)	
Nditya kakuhle	
Nditya kancinci	
Ndiphakathi	
Nditya kakubi kakhulu	
Nditya ngokubalaseleyo	

ICANDELO 4. MALUNGA NEPILISI

19. Ukhe wanengxaki ngokusela iplisi zakho?

**ANDIZANGE                      NDABA NAZO                      KAMBALWA**  
**KANINZI**

Iziza mva (side effects)				
Ukutya kungangeni				
Ukungafumani nkuthazo (support)				
Ukungabi nandlu yokuhlala				
Ingxaki zasemsebenzini				
Ingxaki zokusela utywala				
Ukungafikeleli kwiziko lempilo				
Ezinye....				

20. Likhona uncedo okhe walufumana ngokuthabatha usele ipilisi zakho?

Kusapho	
Kubahlobo	
Ku nurse	
Kumlingane	
Kumqeshi	
Kwabanye abagulayo nabo	
Ezinye....	

21. Zingxaki zini othe wahlangana nazzo oko uthe wasebenzisa ipilisi ezithomalalisayo zentsholongwane ugawulayo?

Ingxaki zesondo	
Ingxaki zothando	
Ingxaki zomphefumlo	
Ingxaki zokutya	
Ingxaki zotywala	

22. Chaza ngamava akho okugula ngale ntsholongwane.

	0 - 3 months	4 - 8 months	9 - 17 months	18 - 26 months
Ukucinga nzulu				
Ukuthabatha kakuhle izinto				
Ukwamkela				
Ukuba nengcinga ezibethanayo				
Ukuba nentandabuzo				

23. Ingaba ukhona umahluko othe wawuqaphela emzimbeni wakho emva kokuba uthe wasebenzisa ipilisi?

Ndiziva ndinolawulo	
Ndiziva ndisemandleni	

**Enkosi ngentsebenziswano yakho.**

**Maz'enethole!!**

## Appendix 4

### INTERVIEW SCHEDULE

Date:

-----

Supervisor:

Dr. Greg Munro

Date of Birth:

May 29, 2012

Sex: Male

Occupation: Roman Catholic Priest.

1. Do you think that social support structures could lead to the increase of life expectancy in our world?
2. Is there any relationship between marital status, education, residential area, or living condition that could influence adherence to anti - retroviral therapy?
3. What are your thoughts about the quality of social support that is offered in our clinics nowadays?
4. What could be the motivation of patients that are religiously adhering to their anti - retroviral treatment?
5. Patient advocates, what is the fundamental role that could have/is being played by them in addressing personnel/human resource shortage in the health sector?
6. Which social support programmes do you think would work more efficiently than others in an illiterate community?
7. Which methods other than an interview and questionnaire would source more information from clients in a research project?
8. What could be done to support those patients that are bed - ridden better so as to make sure they get their doses all the time?

With many thanks...

## Appendix 5



## Eastern Cape Department of Health

Enquiries:	Zonwabele Merile	Tel No:	083 378 1202
Date:	28 <sup>th</sup> November 2012	Fax No:	043 642 1409
e-mail address:	<a href="mailto:zonwabele.merile@impilo.ecprov.gov.za">zonwabele.merile@impilo.ecprov.gov.za</a>		

---

Dear Mr VL Kewu

**Re: Determination of factors affecting adherence to anti-retroviral therapy in Milford and Philani clinics.  
(Magisterial district of Queenstown and Ntabethemba Administrative Area)**

The Department of Health would like to inform you that your application for conducting a research on the abovementioned topic has been approved based on the following conditions:

1. During your study, you will follow the submitted protocol with ethical approval and can only deviate from it after having a written approval from the Department of Health in writing.
2. You will observe and respect the rights and culture of your research participants and maintain confidentiality of their identities and shall remove or not collect any information which can be used to link the participants. You will not impose or force individuals or possible research participants to participate in your study. Research participants have a right to withdraw anytime they want to.
3. The Department of Health expects you to provide a progress on your study every 3 months (from date you received this letter) in writing.
4. At the end of your study, you will be expected to send a full written report with your findings and implementable recommendations to the Epidemiological Research & Surveillance Management. You may be invited to the department to come and present your research findings with your implementable recommendations.
5. Your results on the Eastern Cape will not be presented anywhere unless you have shared them with the Department of Health as indicated above.

Your compliance in this regard will be highly appreciated.

  
DEPUTY DIRECTOR: EPIDEMIOLOGICAL RESEARCH & SURVEILLANCE MANAGEMENT



*Ikansva elizaqambileva*



Appendix 6



Inxuba Yethemba Sub-District • Nurses Home • Hospital Road • Cradock • Eastern Cape  
Private Bag X90 • Cradock • 5880 • REPUBLIC OF SOUTH AFRICA  
Tel.: +27 (0)48 881 2921 • Fax: +27 (0)48 881 5381 • Website: [www.ecdoh.gov.za](http://www.ecdoh.gov.za)

To: University of Stellenbosch  
Private Bag X1  
Matieland  
7602

06 December 2012

Re: CONFIRMATION OF RESEARCH CONDUCTED

This serves to confirm that Vinthwembi Lawrence Khewu conducted research at Mitford Clinic, Ntabethemba, Eastern Cape.

Thank you

(Mrs) O VAN HEERDEN  
Sub-District Manager

United in achieving quality health care for all

24 hour call centre: 0800 0323 64  
Website: [www.ecdoh.gov.za](http://www.ecdoh.gov.za)



*Ikamva eliqaqambileyo!*



*Ikamva eliqaqambileyo!*

## PROVINCE OF THE EASTERN CAPE

---

Iphondo Lwempuma – koloni Province of the Eastern Cape Provinsie Oos-Kaap

---

ISEBE LEZEMPILO DEPARTMENT OF HEALTH  
DEPARTEMENT VAN GESONDHEID  
IBOKISI NOMBOLO / P.O. BOX / POSBUS 664, QUEENSTOWN 5320 SOUTH  
AFRICA

Ref.No. :

Telephone : 045 – 8071237

Enquiries : Mrs N.Baba

Fax : 045 – 8071239

Navrae :


DATE 2012/12/21


---

TO : Mr Kewu  
FROM: Lukhanji Sub district Manager  
Dept of Health

SUBJECT: PERMISSION TO CONDUCT RESEARCH IN PHILANI CLINIC

Lukhanji sub district management grants you permission to conduct research study re- determination of factors affecting adherence to anti-retroviral therapy in Philani clinic as approved by epidemiological research & surveillance in Bhisho.

  
.....  
N.A.BABA  
LUKHANJI SUB DISTRICT MANAGER

  
.....  
DATE

**Appendix 8****SUBJECT/PARTICIPANT INFORMATION SHEET**

Dear Participant/Respondent

**RE: DETERMINATION OF FACTORS AFFECTING PROPER TAKING OF ANTI – RETROVIRAL MEDICINES IN THE VILLAGE CLINIC OF MITFORD, NTABETHEMBA ADMINISTRATIVE AREA AND PHILANI CLINIC IN THE MAGISTERIAL DISTRICT OF QUEENSTOWN**

In partial fulfilments of the requirements of the Master of Philosophy Degree in HIV/AIDS Management at Stellenbosch University. I Vintwembi Lawrence Khewu am carrying out a study with the above title. The information you will give is for academic purposes and all will be treated with the strictest confidence. The purpose of this study is to find/determine reasons that results/contribute to patients not taking their anti - retroviral medication properly and as it is recommended by their respective Doctors/Nurses in the two medical centres situated within the Chris Hani District Municipality. Through the help of a drawn up questionnaire, I intend asking the following questions related to the proper taking of anti - retroviral medicines in which you participants are taking:

How many times could you have missed taking your medicines and what is the reason for not taking your medicines? What do you use to remind yourself of taking your medicines, are you using a clock, cell phone, partner etc? How far are you from the clinic, are you on a walking distance or do you need a vehicle/bus to reach your medical centre? When you are feeling sick, do you have someone helping you to enable you to reach your medicines in time or do you struggle along sometimes without success? Have you understood medicines instructions from the Doctor/ your nurse for taking your medicines? How many times have you taken your medicines later than you normally do?

Please note that the study concerns itself with experiences, barriers, feelings and perceptions that may provoke unpleasant memories to recall causing some discomforts. Participants are therefore reminded that they are completely free to walk away and not participate in the project or refuse to answer any questions without fearing damaging their relationship with the researcher and they may still remain in the project whilst' not answering questions. The project/study is completely voluntary. In case the study has provoked unpleasant memories to recall, causing some discomforts, psychological help is available for you. You can contact **Ms. Helen Nwabisa Maqela** at: Cellular: 072 435 7868, Office Hours: 045 858 8400/045 838 3717 at home/E - mail: [maqelahn@telkomsa.net](mailto:maqelahn@telkomsa.net)

**THE STUDY HOPES TO ACHIEVE THE FOLLOWING OBJECTIVES:**

- Find factors that could be reasons for not taking your medicines properly and as instructed by your Doctor or Nurse.

- Make recommendations on intervention to encourage (social) support by the members of the community for you, patients receiving anti - retroviral treatment/medicines.
- Give suggestions and proposals as to the encouragement of improving taking anti - retroviral medicines promptly and correctly.
- Identify reasons that could be materially inclined (monetary) that contribute to patients not taking their medicines as a result of shortage of food.

Please feel free to contact the researcher should you have any questions or for further explanation of whatever you may not understand at Telephone: 045 854 9439 at home or Cellular: 082 975 3947/E – mail: [kewuvl@vodamail.co.za](mailto:kewuvl@vodamail.co.za) You can also contact **Dr. Greg Munro** at: [greg@sybaweb.co.za](mailto:greg@sybaweb.co.za) / 083 629 2569

Thank you

Khewu, V.L.