

**AN ASSESSMENT OF FOOD SECURITY
INTERVENTIONS
FOR PEOPLE LIVING WITH HIV AND AIDS
ON ANTIRETROVIRAL TREATMENT AT
HOUSEHOLD LEVEL
IN THE KHOMAS REGION, NAMIBIA.**



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**A mini-thesis submitted in partial fulfilment
of the requirements of the Masters Degree in Public Health,
in the School of Public Health, Faculty of Community and Health Sciences,
University of Western Cape.**

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KEYWORDS

ADHERENCE

ANTIRETROVIRAL THERAPY

FOOD SECURITY

HIV/AIDS

HOUSEHOLD

INDIVIDUAL

INTERVENTIONS

NUTRITION

PLWHA

TREATMENT ADHERENCE



ABBREVIATIONS

AIDS	Acquired Immune-Deficiency Syndrome
ACT	AIDS Care Trust
ARV	Antiretroviral
ART	Antiretroviral Therapy
CAA	Catholic AIDS Action
GDP	Gross Domestic Product
HBC	Home Based Care
HIV	Human Immunodeficiency Virus
IGA	Income Generating Activities
LE	Lironga Eparu
NRCS	Namibia Red Cross Society
PEPFAR	President Emergency Plan for AIDS Relief
PLWHA	People Living with HIV and AIDS
STI	Sexually Transmitted Infections
WHO	World Health Organization

DECLARATION

I declare that An Assessment of Food Security Interventions for People Living with HIV/AIDS on Antiretroviral Treatment at Household Level in the Khomas Region, Namibia, is my own work, that it has not been submitted before for any examination or degree at any other university, and that all the sources I have used have been indicated and acknowledged as complete references.

Signed:

SHIRLEY MAGAZI

November, 2008.



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I would like to thank the following people for making this study possible and enjoyable through the tough times:

Firstly, I thank God Almighty for giving me the strength, wisdom, understanding and patience to complete this study. Were it not for Him, this study would not have been possible.

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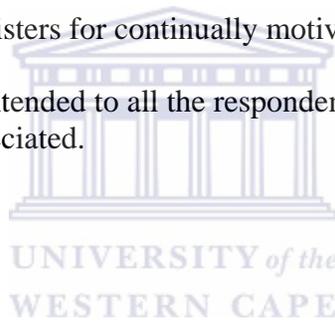


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ABSTRACT

Background: In the era of AIDS, food and nutrition are becoming more of a priority for many households and communities. This is more so now that treatment is available for people infected with HIV and AIDS. Food and nutrition are fundamentally intertwined with HIV transmission and the impacts of AIDS. Evidence of the ways in which food insecurity and malnutrition may interfere with the effectiveness of antiretroviral therapy is well documented.

Aim: The purpose of the study was to inform improvements in food security interventions for PLWHA through an investigation of existing food security interventions in the Khomas Region, Namibia.

Study Design: Through a qualitative, explorative, descriptive study design, the study got an in-depth understanding of programmes in place for PLWHA on treatment and the perceptions of PLWHA on treatment benefiting from such programmes. Purposeful selection of participants was used to ensure that only those capable of providing in-depth information were selected. The participation criterion was designed to include adult PLWHA on treatment in the age group of 20 and over.

Data Collection and Analysis: Data was collected through focus group discussions and key informant interviews. Specific words were then grouped into specific categories and coded. The study limitations include data and sample-size limitations. With regard to data limitations, information provided by participants is not adequate to clearly describe the views and perceptions of PLWHA involved in food security programmes. This is a result of very few programmes being in place in the Khomas Region. Regarding the second limitation, the sample size was too small for the results to be generalized for the rest of the country. Data analyzed was based on general themes identified in a set of data.

Results: The results of the study indicate that there are minimal programmes in place for food security. These programmes are primarily limited to nutritional education and nutritional supplements. The findings indicate that nutritional education has increased the knowledge of PLWHA regarding the type of food they need to take. However, PLWHA are faced with challenges of acquiring the nutritional food especially since the present interventions do not make provision for nutritional food. More efforts are required to strengthen current programmes. The results of the study further identified the need for government to become actively involved in addressing food security for PLWHA and to work closely with non-governmental organizations.

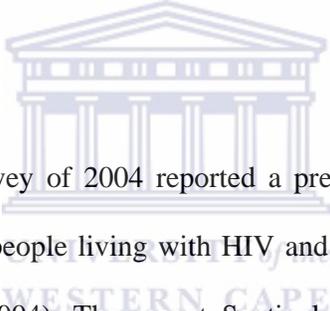
Conclusion: The study makes recommendations of the findings with specific emphasis on strengthening HIV and AIDS programmes with food-based programmes to enhance greater involvement of PLWHA in agricultural programmes. Strong recommendations are made for food security programmes to adopt a household approach in tackling food insecurity of PLWHA on treatment. Recommendations include the development of strategies to address food security for PLWHA; these strategies should be included in the national guidelines for antiretroviral therapy in Namibia as well as the guidelines for Home-Based Care for PLWHA. The development of food security calls for a multi-sectoral approach to collectively address the food security of PLWHA.

CHAPTER 1

INTRODUCTION

1.1 BACKGROUND INFORMATION

The HIV and AIDS epidemic continues to be a global crisis with impacts that will be felt for decades to come (International Food Policy Research Institute, 2006). More than 28 million people have died since the first case was reported in 1981. In 2005, AIDS claimed the lives of more than 2.8 million people worldwide. According to a report by the Joint United Nations Programme on HIV and AIDS (UNAIDS), (2006), sub-Saharan Africa is the hardest-hit region, with more than 24,5 million people living with HIV of the 38.6 million recorded globally.



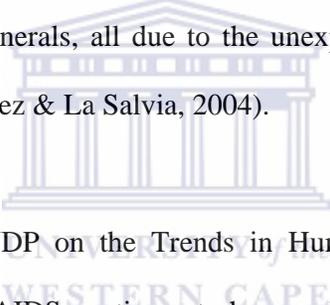
The Sentinel Surveillance Survey of 2004 reported a prevalence rate of 19.7% with an estimated number of 210,000 people living with HIV and AIDS in Namibia (Ministry of Health and Social Services, 2004). The recent Sentinel Surveillance Survey for 2006, however, indicates a slight increased prevalence rate of 19.9% compared to the prevalence rate in 2004 with an estimated number of 220,000 people living with HIV and AIDS (MoHSS, 2006c). To date it is estimated that 17,000 people in Namibia have died due to HIV and AIDS, resulting in an estimated number of 85,000 AIDS orphans according to UNAIDS estimations (UNAIDS, 2006). The Khomas Region has a recorded prevalence rate of 30.2% (MoHSS, 2006c).

1.1.1 HIV and AIDS Impact on Morbidity and Mortality

The HIV and AIDS pandemic have severe effects on morbidity and mortality. The 2005 Human Development Report identifies AIDS as the factor inflicting the single greatest

reversal in human development history. Mortality has increased among adults aged 20–49 in sub-Saharan Africa, where deaths have dramatically increased to 60% compared to 20% in 1990 before AIDS was a major concern (UNDP, 2005).

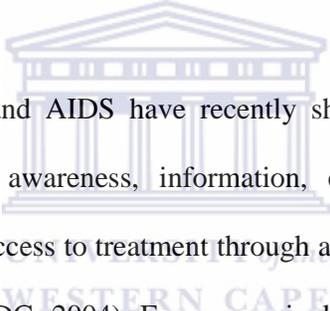
Life expectancy in sub-Saharan Africa is decreasing considerably. Since 1990 life expectancy in Zimbabwe has dropped from 54 to 34 years; in Lesotho from 54 to 36 years and in Zambia from 47 to 33 years due to the impact of HIV/AIDS (Rodriguez & La Salvia, 2004). Furthermore, basic economic indicators such as household income and farm productivity have declined by 15–20% in the past two years. In Zambia, the Ministry of Education has seen its allocations increase by 71% for teacher absenteeism, 22% for new teacher training and 7% for funerals, all due to the unexpected, unbudgeted problem of HIV-infected teachers (Rodriguez & La Salvia, 2004).



According to a report by UNDP on the Trends in Human Development and Human Poverty in Namibia, HIV and AIDS continues to hamper Namibia's development efforts. Although average income in Namibia has increased from \$810 in the earlier 1990s to \$1 540 in 2004 and education improved during the same period, the average life expectancy has decreased from 60 to 44 years which is a direct result of HIV and AIDS (UNDP, 2007). According to the 2007 Human Development and Human Poverty report, HIV and AIDS is the greatest cause of deaths in the country. As stated by the World Health Organization (WHO) (2008), mortality rates in Namibia are estimated at 367 per 1 000 population. Unfortunately, the mortality rates for the Khomas Region were not available during the compilation of this report.

1.1.2 HIV and AIDS Impact on Poverty, Nutrition and Food Security

The HIV and AIDS pandemic have detrimental impacts on nutrition and household food security. In a report on the impact of AIDS in Namibia, the authors indicate the adverse effects HIV and AIDS has on households in Namibia where the breadwinner was HIV-infected. Loss of income resulted in food scarcity, increased medical bills, and consequently decreased spending on food and deaths resulted in permanent loss of income (Bollinger & Stover, 1999). HIV and AIDS pose a great challenge to the world at large and to Africa in particular. Research has shown that independent of ARV treatment, weight loss remains a predictor of mortality in HIV-infected individuals (Byron, Gillespie & Nangami, 2006).



Strategies to deal with HIV and AIDS have recently shifted from prevention through condom distribution, general awareness, information, education and communication strategies to include issues of access to treatment through antiretroviral (ARV) therapy and access to proper nutrition (SADC, 2004). Focus now includes treatment of opportunistic infections and treatment and care of HIV/AIDS, which include nutrition and healthy lifestyle interventions (SADC, 2004).

According to the World Food Programme (WFP) (2006), ninety-five percent of the people who are HIV-positive are found in poor countries and many of them struggle to get enough food to eat. A study conducted in South Africa in 2002 found that households which are already poor and coping with members who are sick from HIV and AIDS were reducing spending on necessities even further, resulting in reduced amounts spent on food and insufficient food at times (WFP, 2006).

In Botswana, it is estimated that every income-earner, on average, is likely to acquire one additional dependent over the next years, due to the AIDS epidemic (WFP, 2006). Similar findings were found in a study conducted in India, where a review on economic research on AIDS concluded that households belonging to less educated, female or poor people face a proportionately greater economic burden due to AIDS (UNAIDS, 2006). Another study conducted in Burkino Faso, Rwanda and Uganda, calculated that AIDS will increase the percentage of people living in extreme poverty from 45% in 2000 to 51% in 2015 in addition to reversing overall progress in poverty reduction (UNDP, 2003).

In Namibia, HIV-affected households were found to be less able to remain food-secure during drought; 43 percent of all households in a 2002 survey reported insecurity during the last month (Commission on HIV/AIDS and Government in Africa, 2004). A study conducted in 2000 estimates a 25% loss of production time because of farmers constantly attending funerals due to HIV and AIDS deaths, resulting in reduced crop yields (Food Agriculture Organization of the United Nations, 2001). This calls for great efforts to mitigate the impact of the epidemic, requiring policy-makers and all stakeholders in both nutrition and HIV and AIDS to be reached (SADC, 2004). Additionally, an evidence-based response is required to alleviate the overall burden of malnutrition and to reduce the severity and complexity of the impact that HIV/AIDS and malnutrition have on each other (WHO, 2004).

1.2 THE NAMIBIAN CONTEXT

Namibia is situated in the south-west part of Africa with a surface of 824,285 square kilometres. Namibia is bordered by South Africa in the south, Angola and Zambia in the north, Botswana and Zimbabwe in the east, and the Atlantic Ocean in the west. Namibia is well known for its vastness, yet it is very sparsely populated with an estimated population

of 2,000,000 (Namibia Planning Commission, 2003). Namibia is a desert, with limited water. The country is divided in 13 regions, namely: Caprivi, Kavango, Kunene, Oshana, Oshana and Oshikoto regions in the north; Omaheke, Otjozondjupa, Erongo and Khomas in the central areas; and the Hardap and Karas regions in the south. Windhoek is the capital of the Khomas Region as well as the capital city of the country with a population of 273,058 (NPC, 2003).

1.2.1 Antiretroviral Therapy in Namibia

Namibia has become the foster child of global treatment access efforts because it is one of the few countries to have exceeded its target in the WHO campaign to put 3 million people on antiretroviral therapy by the end of 2005 (UN Integrated Regional Information, 2006). The treatment programme in Namibia was launched in 2003 and the government has rapidly scaled up treatment since then. By April 2006, all public hospitals were providing ARV drugs. More than 50, 000 people are receiving ARV treatment out of 100, 000 individuals in need of treatment (SAFAIDS, 2008).

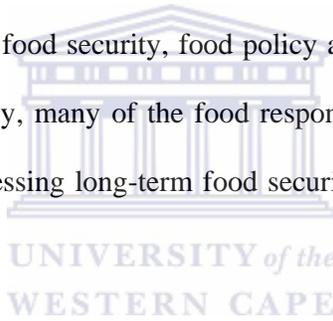
However, retaining all the people currently on treatment has become a growing concern for local activists and healthcare workers. Adherence rates to ARV treatment are still as high as 90% (UNIRI, 2006), nevertheless, the country is challenged by high levels of unemployment, alcohol abuse and food insecurity that may negatively affect adherence rates.

Reports from the Katutura Hospital indicate that poverty and alcohol abuse are widespread problems in the township – this has been confirmed by the records kept by the counsellors in the hospital as the most common reasons for defaulting on treatment. UNAIDS in

Namibia has called for government to strengthen treatment literacy efforts and address food insecurity. This is especially urgent as any interruption in treatment can lead to the virus becoming resistant to the medication, thus hastening progress towards AIDS (UNIRI, 2006).

1.3 PROBLEM STATEMENT

There is currently a strong focus on clinical nutrition and HIV and AIDS in the context of issues such as infant-feeding and the efficacy of antiretroviral therapy amongst malnourished populations. Yet there have been few attempts to link nutritionists with agricultural economists and programme managers to investigate the broader issue of community-level nutrition and food security, food policy and programming in the context of HIV and AIDS. Additionally, many of the food responses have revolved around food aid without interventions addressing long-term food security within affected communities (Gillespie & Kadiyala, 2005).



In recent years, knowledge of the devastating interactions between HIV/AIDS, food and nutrition security has been growing (Gillespie & Kadiyala, 2005), yet the critical step of using the knowledge to improve and scale up effective interventions has yet to be taken. The Namibian HIV and AIDS policy states that food and nutritional support shall be made available to poor households directly affected by HIV and AIDS and government shall ensure that programmes are in place to alleviate poverty and improve food security, nutrition and access to suitable housing (MoHSS, 2006a). However, the question remains: what is in place to ensure food security for PLWHA on treatment at household level?

In light of the above, the researcher embarked upon a study to investigate programmes in place for PLWHA that are aimed at enhancing treatment adherence. To date, no studies are being conducted in Namibia indicating the programmes in place for PLWHA and their perceptions and attitude towards these programmes. This study will therefore be used as baseline information for organizations and government ministries interested in starting or strengthening food security programmes for PLWHA.

1.4 PURPOSE OF THE STUDY

The purpose of the study was to inform improvements in food security interventions for PLWHA through an investigation of existing food security interventions in the Khomas Region in Namibia. The study aimed to answer the research question: how to improve food security interventions in place for PLWHA on treatment in the Khomas Region.

1.5 OUTLINE OF THE REPORT

Chapter 1: The introduction of the study provides a description of the HIV and AIDS epidemic worldwide and the impact on morbidity, mortality, poverty, nutrition and food security with specific emphasis on sub-Saharan Africa and Namibia in particular. In addition, the problem statement, study aims and objectives are presented.

Chapter 2: A review on recent literature on the interaction of HIV and AIDS, nutrition and food security is discussed in detail. The chapter provides an overview of antiretroviral therapy, the importance of adherence and the role of food and nutrition in treatment adherence are discussed.

Chapter 3: The research methodology is presented by outlining the study design, study population, sampling procedures, data collection and data analysis.

Chapter 4: The presentation of results findings and discussion on the analysis of data is provided in this chapter.

Chapter 5: A summary of the findings, recommendations and conclusions are presented in this chapter.



CHAPTER 2

LITERATURE REVIEW

This chapter provides an overview of literature on the interaction of HIV and AIDS, food and nutrition security; an overview of antiretroviral therapy, the importance of adherence and the role food and nutrition play in treatment adherence.

2.1 HIV AND AIDS, FOOD AND NUTRITION SECURITY: AN OVERVIEW

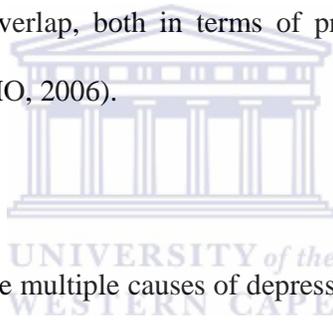
HIV and AIDS, food and nutrition insecurity are becoming progressively entwined in a vicious cycle. Food security is defined as the physical and economic access, availability, stability and use of sufficient quantity and quality of food (FAO, 2001). In high HIV and AIDS-prevalent countries, all dimensions of food security are affected referring to availability, stability, access and use of food. HIV and AIDS is increasingly having a major impact on nutrition, food security, agricultural production and rural societies especially in southern Africa (FAO, 2001).

The negative impact of HIV and AIDS on nutrition and food security affects not only the household and the community, but extends to different parts of the country. The decrease in the labour force, workers productivity and overall economic growth could lead to a decline in national food supplies and a rise in food prices (FAO, 2001). According to FAO estimates, by 2000 the agricultural workforces in 12 high-prevalence African countries were between 3% and 10% smaller than they would have been in the absence of AIDS.

In Namibia, it is estimated that the loss would be over 20% by 2020. Research on national economies has found relatively modest effects on economies using measures such as the

Gross Domestic Product. In sub-Saharan Africa, the impact on GDP has been placed at around 1% annually (UNAIDS, 2006).

At household level, food consumption generally decreases due to the inability to produce or purchase enough to feed the household members. Research in Tanzania showed that, per capita, food consumption decreased by 15 percent in the poorest households when an adult died (FAO, 2001). At an individual level, the interactions between nutrition and HIV and AIDS are complex since HIV infection progressively weakens the immune system and also because under-nutrition may increase susceptibility to the infection. In many areas, under-nutrition and HIV infection overlap, both in terms of protein energy, malnutrition and micronutrient deficiencies (WHO, 2006).

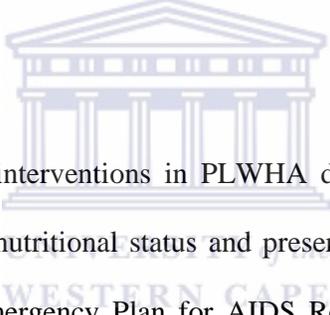


Poor nutritional status may have multiple causes of depressed appetite, poor nutrient intake and limited food availability; chronic infection, mal-absorption, metabolic disturbances and muscle & tissue catabolism; fever, nausea, vomiting & diarrhoea; depression and side effects from drugs to treat HIV-related infections (WHO, 2004). Additionally, nutritional deficiencies affect immune functions that may influence viral expression and replication, thus further affecting HIV progression (WHO, 2004). HIV-infected individuals may be deficient in a micronutrient for reasons such as: side effects make it hard to eat, nutrients from food are not absorbed, or the body needs more nutrients to fight the virus. Several studies have shown that HIV infected people are at increased risk of developing micronutrient deficiencies (CATIE, 2007). These deficiencies can increase the rate of HIV-infection progression to AIDS and can increase the risk of dying. For this reason, it is

believed that the micronutrient requirements for people with HIV are higher than the RDAs for the general population (CATIE, 2007).

2.2 NUTRITIONAL NEEDS FOR PEOPLE LIVING WITH HIV AND AIDS

On the one hand, nutrition and immunity in HIV-positive people can interact in two ways, HIV-induced immune impairment and heightened subsequent risk of opportunistic infections can worsen nutritional status leading to nutritional deficiencies through decreased food intake, mal-absorption and increased utilization and excretion of nutrients which hasten death. On the other hand, nutritional status modulates the immunological response to HIV infection, affecting the overall clinical outcome (Byron, Gillespie & Nangami, 2006).

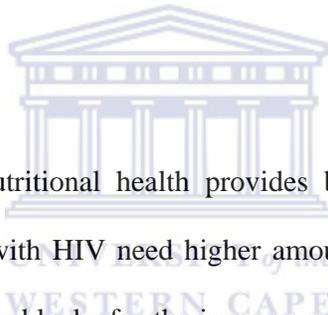


Responsiveness to nutritional interventions in PLWHA depends on viral load, stage of disease, concurrent treatment, nutritional status and presence or absence of opportunistic infections (The President's Emergency Plan for AIDS Relief, 2006). However, there is little data on the direct effect of dietary intake on these variables in HIV-positive people, particularly in developing countries. Some studies on specific nutrients and combination of nutrients suggest that disease progression, nutritional status, well-being and survival can be improved, but these studies have not resulted in specific recommendations for dietary modification beyond the recommendation for increased energy intake (PEPFAR, 2006).

The WHO recommendations call for increased energy intake as part of the nutrient requirements for PLWHA. HIV affects the energy balance by increasing the amount of energy used up to fight against the virus (CATIE, 2007). Energy requirements are likely to

increase by 10% to maintain body weight and physical activity in HIV infected individuals (WHO, 2004).

Weight loss, however, continues to be a problem for people with HIV and is generally caused by not consuming enough calories due to lack of nutritious food high in calories and protein. Additionally, low food intake combined with increased energy demands for people infected by HIV are major factors in HIV-related weight loss and wasting (WHO, 2004). Body weight is an indicator of health and nutritional status. It is an indicator of whether or not the energy needs are being balanced by the food intake. Studies have shown that even the slightest weight loss can increase the chance of getting sick and dying (CATIE, 2007).



Food as the foundation of nutritional health provides building blocks for macro and micronutrients. People living with HIV need higher amounts of protein to maintain lean body mass and provide building blocks for the immune system (CATIE, 2007). Protein is very important to the body as it is used by the body to make cell structures, hormones, enzymes and, most importantly, components of the immune system. However, there is currently no evidence that protein intake above normal requirement will improve protein status or lean muscle mass in PLWHA (WHO, 2004).

Good nutrition may benefit individuals if the following are adhered to (WHO, 2005):

- Improve the function of the immune system and the body's ability to fight infections.
- Extend the period from infection to the development of the AIDS disease.
- Improve the response to treatment.

- Keep HIV-infected individuals active, allowing them to take care of themselves, their families and children.
- Keep HIV-infected individuals productive, by working, growing food and contributing to the income of their families.

Although good nutrition is a great booster to the immune system of people living with HIV, it boosts the energy level and maintains body weight and well-being; there is no evidence that food or dietary supplements alone will stop people who are infected with HIV from progressing to AIDS (WHO, 2005). A study by top South African research scientists found that nutrition is no substitute for antiretroviral treatment for HIV-infected people (Mercury, 2007).



2.3 OVERVIEW OF ANTIRETROVIRAL THERAPY

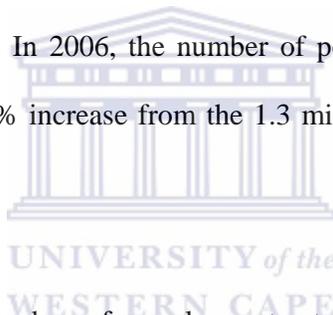
2.3.1 Access to Antiretroviral Treatment

HIV drug therapy, also referred to as antiretroviral therapy, has improved the health of millions who would otherwise have died of AIDS. The treatment benefits to individuals are dramatic, with survival rates exceeding 90% after one year and 80% after two years of ARV therapy (SADC, 2004). This is further confirmed by studies conducted in Botswana, Senegal and South Africa, showing survival rates of between 80 and 90 percent among people who have taken ARVs for at least a year, compared to 50 percent of those with no access to ARVs (Panos, 2006).

Although ARVs are not a cure for HIV, they are very effective in controlling the virus, and can reduce the level of the virus to a point where it is not detectable in the blood. These drugs prevent HIV from multiplying rapidly and, at the same time, boost the body's

immune system (WHO, 2006). In this way, they can increase the length and quality of life and enable people to lead full and productive lives. The increased availability of treatment has dramatically improved survival rates and lowered the incidence of opportunistic infections in people with AIDS (UNAIDS, 2006).

The number of people on antiretroviral therapy in developing and transitional countries increased dramatically from 440 000 to an estimated 700 000 since the second half of 2004. This is an estimated representation of 12% of the approximate 5.8 million people in need of ARV therapy (SADC, 2004). By June 2005, the number of people receiving treatment increased to over one million of the 6.5 million people worldwide in need of ARV treatment (Panos, 2006). In 2006, the number of people receiving ARV treatment increased to two million, a 54% increase from the 1.3 million who received treatment in 2005 (UNAIDS 2006).



In sub-Saharan Africa, the number of people on treatment doubled from 150,000 to 310,000 in just six months in 2004. Between July 2004 and June 2005, the number of people on treatment tripled (Panos, 2006). Kenya has an estimated 44,000 people on ARV treatment from the 200,000 in need of treatment based on statistics in 2005. Botswana has recorded 68,440 people receiving ARV treatment in 2006, thereby exceeding its target of 60,000 through the government ARV roll-out; South Africa has about 700,000 in need of treatment, of which 214,000 people are receiving treatment from both government and private sector programmes; Zimbabwe has an estimated number of 32,000 people on treatment of the 320,000 requiring ARV treatment in 2005 (Panos, 2006).

2.3.2 Adherence to Antiretroviral Treatment

Adherence is defined as the use of antiretroviral drugs at the right dose, at the right frequency of dosing and at the agreed times (MoHSS, 2004). If a patient is taking once-daily treatment, 95% adherence would mean missing no more than one dose a month. For patients taking treatment twice a day, 95% adherence means missing no more than three doses a month. And patients taking treatment three times a day, 95% adherence means missing no more than four doses a month (WHO, 2006). Failure to suppress viral replication completely inevitably leads to the selection of drug-resistant strains, limiting the effectiveness of therapy.

Treatment effectiveness depends on adhering to the regimen which is complicated and includes dietary restrictions, varying drug dosing schedules and side effects (Mercury, 2007). Maximum and sustainable suppression of HIV viral replication to below the level of detection is necessary to achieve biological and clinical goals: defined as the suppression of viral replication, restoration of the immune response, a halt in the progression of disease, increased survival rates, reduced morbidity and a better quality of life (WHO, 2006). An adherence rate of 100% is regarded as the best response to ARV therapy. Whilst an adherence rate of 95% or more is required for continued viral suppression and to prevent drug resistance through multiplication of mutant viruses (Kgatlwane, Ogenyi, Ekezie & Ngo Madaki, 2005), levels of adherence below 95% have been associated with poor suppression of HIV viral load and a lower increase in CD4 count (Kgatlwane et al., 2005).

Sub-optimal adherence to ART is the strongest predictor of failure to achieve viral suppression below the level of detection, and most often underlies treatment failure. Evidence suggests that greater than 95% adherence may be necessary to adequately

suppress viral replication, produce a durable response and halt disease progression (ACW, 2006). This means that missing more than one dose of a regimen per week may be enough to cause treatment failure. In addition to leading to disease progression, this may result in the development and transmission of drug-resistant viruses which cannot be treated with first-line (lower cost) medicines. This will require treatment with second- and/or third-line medicines, which are more expensive, associated with many side-effects and are complex to manage (ACW, 2006).

The challenge of adherence in the face of potential viral resistance, treatment failure, disease progression and the spread of drug-resistant virus to sexual partners are of great concern. Patients on long-term ART with undetectable levels of HIV still harbour replication-competent virus (Dentalplans, 2006). For this reason, with current medications, ART is a life-long process. While conscientious treatment adherence is difficult under any circumstances, the unforgiving nature of HIV replication, the complexity of the ART regimens, and the associated short- and long-term toxicity of the medicines all pose particularly difficult challenges for patients (Dentalplans, 2006).

Adherence to ARV treatment, as described by WHO, 2006, involves the following:

- Taking all the pills which make up the ARV combination in the correct quantities.
- Taking the pills at the right times. Failure to do so can cause a rise in viral load and this may lead to the development of drug-resistance.
- Ensuring that the medication is taken with or without food, according to the instructions. Some medications need to be taken with food to ensure that the body absorbs them properly, whilst others need to be taken on an empty stomach, a certain amount of time before or after eating. It is also important that the patient eats the right kind of food; for

example, the amount of fat eaten can make a difference to how well some drugs are absorbed.

- Checking for interactions with any other medication or drugs. This includes medicines that have been prescribed for the patient, or any self-medication. Some drugs can have potentially dangerous interactions with ARVs.

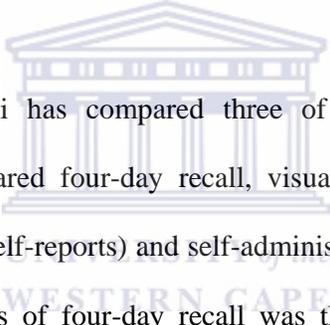
It should be recognized that adherence to ART is a critical issue, and it is clear from the literature that the factors that influence a patient's ability to adhere, are multiple and complex. A multitude of variables such as income, education and marital status have all been shown to affect adherence to ART, to differing degrees.

Initial data on treatment success rates in developing countries are indicating just as good rates as those in affluent, industrialized countries. Adherence to regimens is as high as 90% (Southern African Regional Poverty Network, 2004). Researchers examining 58 studies on adherence to ARV therapy found that an estimated 77 percent of sub-Saharan Africans with HIV adhered to the recommended drug regimen compared to 55 percent of North American patients (Mills, 2006). Surveys conducted in Botswana, Senegal and South Africa shows that people living with HIV/AIDS take their medication regularly about 90% of the time (Panos, 2006). Although the adherence rates appear to be high, underlying factors may negatively influence these adherence rates.

Lack of strict adherence to antiretroviral therapy is considered to be the key challenges to AIDS care worldwide. Recent data in Botswana estimates average rates of non-adherence with ARV therapy ranging from 50–70% in many different social and cultural settings, and the risks associated with non-adherence are extensive at both individual and societal levels (Kgatlwane et al., 2005).

2.3.3 Measurement of adherence: particular requirements for ARVs

While adherence can be expressed quantitatively as a percentage of expected treatments actually taken, its accurate measurement is very difficult. There is no gold standard for adherence measurement. While adherence can be ensured by directly-observed treatment, this may not be practical for twice-daily therapy which has to be taken for life. As a result, levels of adherence can only be estimated by use of indirect measures (WHO, 2006). The most commonly used methods include pill counts, pharmacy refill records, various self-reporting tools such as questionnaires and visual analogue scales, measurement of blood levels, and electronic drug monitors which monitor the number of times the cap of a pill container is removed.



A recent report from Malawi has compared three of these methods of measuring adherence. The authors compared four-day recall, visual analogue scale (using visual measurement tools to capture self-reports) and self-administered questionnaires, and found that self-reporting on the basis of four-day recall was the best predictor of viral load (WHO, 2006).

When reporting adherence to ART, two measures are frequently used. The first is the overall adherence recorded as the number of tablets taken correctly as a proportion of those which were prescribed. This measure is an important marker for the clinical evaluation of individual patients, as well as for counselling purposes. The second measure, which is more sensitive to the particular requirements of ART, reports the percentage of patients taking at least 95% of their tablets correctly, and is essential for programmatic or public health evaluation (WHO, 2006).

When reporting population adherence rates, it is critically important to include the percentage of patients who achieve the optimal adherence rate of at least 95%. Thus, the average (mean) overall population adherence rate may be 85% (i.e. 85% of all pills that should have been taken were taken) but only 60% of this same population may have achieved the optimal adherence rate of at least 95%. The first measure of overall adherence is important for individual counselling, while the second, which is a population measure of adherence, is useful for evaluation and planning. Although having both measures in any study complicates analysis, both are needed, in particular the second measure. Both measures can be collected in the same way with pill counts, patient recall, visual analogue scales or electronic monitoring (WHO, 2006).

2.4 FOOD, NUTRITION SECURITY AND ARV TREATMENT

Inadequate access to food and nutrition is increasingly being recognized as significantly reducing the impacts of HIV and AIDS treatment, thus leading to ARV non-adherence (Overseas Development Institute, 2006). As stated in a report on Zambia, (IRIN, 2008), the poor nutrition often experienced by people on treatment in that country nullifies the benefits of the medicine. Experts in Zambia have warned that taking ARV drugs without good nutrition is becoming as bad as not taking them.

There is now clear evidence that malnourished individuals starting ARV therapy are for more likely to die in a given period than well-nourished individuals (Byron, Gillepsie & Nangami, 2006). For instance, the intake of macronutrients, such as carbohydrates, fats and proteins, was a strong indicator of how fast people living with HIV and on treatment would progress to AIDS (Avert, 2008).

A study in Singapore found that malnourished people were less likely than others to benefit from ARV therapy (Avert, 2008). Another study in Malawi found that severely malnourished people were six times likely to die in the first three months of treatment compared to those with a normal nutritional status (Avert, 2008). The above studies controlled for viral load and concluded that findings were a result of malnourishment regardless of the viral load of the participants. Weight loss is common among malnourished people. Losing too much lean body weight changes your body chemistry, a condition called wasting syndrome, which can kill. Thus, extra muscle weight helps fight HIV (The Body, 2008).

Food intake generally improves drug tolerance when taking medication and reduces side effects as well (CATIE, 2008). Studies have shown that HIV weight loss tends to reduce protein, stores more quickly than simple starvation, and a major nutritional goal for HIV-infected individuals should be to build or maintain muscle mass (Momentum, 2008). A cross-sectional study that aimed to determine the prevalence of low serum retinol, alpha-tocopherol, zinc and selenium in HIV-infected subjects taking antiretroviral drugs and assess the association of micronutrient levels with HIV-disease status, found that low serum micronutrient levels were common before widespread use of antiretroviral drugs and were associated with adverse outcomes (Momentum, 2008).

Reports from PEPFAR-funded programmes underscore the importance of integrating food and nutrition support in HIV and AIDS programming as well as incorporating HIV and AIDS components in food assistance projects. As illustrated in a qualitative study conducted in Kenya, findings revealed that patients enrolled in a nutritional programme whilst already on ARV treatment, self-reported greater adherence to their medication,

fewer food-related side effects, and a greater ability to satisfy increased appetites (Byron, Gillespie & Nangami, 2006).

Nutrients and substance in food can interact with drugs by either enhancing or diminishing the effects of the medication. Some food can change the absorption of drugs by reducing the level of drug in the blood to the point where it is like missing a dose by not following the correct recommendation, leading to viral resistance and change in therapy (CATIE, 2007).

On the other hand, ARV can reduce viral loads and contribute to improved nutritional status, but can also create additional nutritional needs and dietary constraints, thus making nutritional management a critical component of ARV therapy (Castleman, Seumo-Fosso & Cogill, 2004). Some of the ARV drugs are toxic; hence they affect the body negatively unless they are taken with recommended food values (IRIN, 2008). Furthermore, ARV treatment may also increase some side effects such as nausea, vomiting and dizziness which are often worse for malnourished persons and may affect adherence in the early months of treatment. In focus-group discussions which were conducted during the initiation of an antiretroviral treatment programme in a large Nairobi slum, groups interviewed listed the lack of food as the most likely cause of non-adherence to antiretroviral therapy (Marston & De Cock, 2004).

Although the dropout rate was less than 5% in Mozambique in 2006, there are a number of constraints to people staying in the ARV programme. When traced, most of those who had dropped out complained of a lack of money for transport to health posts, whilst others said they had no food (IRIN, 2006).

“As a doctor, I can’t do all that my patients need...patients come to me and they can’t get jobs because they are discriminated against; they don’t have money and they have no food at home; then they tell me they can’t take their tablets with no food” (IRIN, 2006).

Problems with drug adherence in sub-Saharan Africa were more directly linked to poverty, such as lack of access to food, drugs or healthcare providers (AIDS Care Watch, 2006). Based on extensive studies conducted by TB Physician and Consultant to the President of India, not much improvement can occur on drugs alone unless patients are provided with 2400 calories per day too (ACW, 2006). He further stressed that nutrition is the most important factor to complement treatment of people with TB and/or HIV, advising that people living with HIV and/or TB should take drugs on a full stomach. He concluded that nutritional supplementation is a must.

“Without nutritious food, without additional therapies, and without the love and care of those who surround us, drugs do little for us,” explains Alice Welbourn of the International Community of Women Living with HIV/AIDS (Panos, 2006).

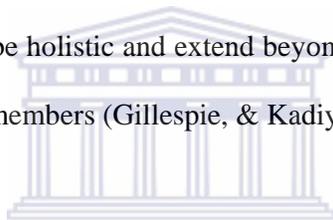
Experiences from the field indicate that PLWHA cannot guarantee they have good nutrition. The same is found in India, confirming that nutrition should be the first line of treatment as everyone who receives ARV therapy at two Delhi hospitals in India live below the poverty line, with most having little opportunity to feed themselves well (Panos, 2006).

2.5 NUTRITION AND FOOD SECURITY PROGRAMMES

Improved attention to nutrition may enhance ART acceptability and effectiveness and help ameliorate metabolic complications. However, improving nutrition requires an integrated

approach to household food security, health and care (Topouzis & Hemrich, 1996). There is however, not much progress made to integrate nutrition interventions into HIV and AIDS programmes and policies (ODI, 2006). There are three main nutrition interventions considered to be critical to improve the nutritional status of PLWHA and now even more critical for ARV adherence, namely: nutritional counselling; targeted nutrition supplements and linkages with food-based interventions and programmes (Gillespie & Kadiyala, 2005).

The growing impact of the epidemic has shown that promotion of simple but important food security, nutrition, and public health interventions alongside and as part of HIV and AIDS treatment initiatives, is critical to an effective HIV and AIDS response. HBC initiatives should now shift to be holistic and extend beyond the person infected by HIV to include family and household members (Gillespie, & Kadiyala, 2005).



FAO supports programmes that enhance people's access to adequate, nutritious diets, including home and community gardening projects, food assistance, nutrition education and local training. In Mozambique and Zambia, FAO supports nutrition and household food security projects using mixed interventions such as food aid, labour and time-saving technologies, including microfinance to help support food production and diversification among HIV and AIDS-affected households (PEPFAR, 2006).

In Botswana, local food industry has developed a nutritious bean and sorghum food product that meets a single RDA of essential nutrients for children who are living with HIV and AIDS. Children undergo a comprehensive nutritional and biochemical assessment, the caregivers are then given nutritional counselling and a monthly ration of supplementary food for the family (PEPFAR, 2006).

In Kenya, the USAID agriculture-funded Nutribusiness project aims to increase the economic status of poor rural women farmers, while improving the nutritional status of children and PLWHA. Blended flour porridge products are formulated, using locally available nutritious vegetables and cereals grown by women, solar-dried and milled. The products are then sold to rural and urban markets at a small profit (PEPFAR, 2006).

According to health workers in Kenya, a high level of adherence to the life-prolonging antiretroviral medication is possible even among poor, uneducated communities, as long as comprehensive AIDS care is provided, which includes counselling, nutritional assistance, support groups and follow-up. As explained by these health workers, the medication causes increased appetites and patients often abandon their medication if they cannot afford more food. The programme therefore has integrated nutritional support by giving patients 5kg of fortified flour every month. In this way, patients are motivated to remain on treatment knowing they have food and can be treated any time when sick (ACW, 2006).

In conclusion, the literature review has revealed that HIV and AIDS negatively impact the food security of households affected by the disease. The impact further affects the degree of ARV treatment adherence of people on treatment. This is further exacerbated by the food-related side effects of the medication such as increased appetite. Nutrition and food security have been identified as very important indicators of treatment adherence creating a need for integrated HIV and AIDS programmes with specific emphasis on food security. The need is becoming more apparent as indicated in the literature review that poor adherence to ARV treatment may lead to drug resistance that would require a more expensive regimen known as the 2nd line drugs.

CHAPTER 3

RESEARCH METHODOLOGY

This chapter outlines the methodology that was employed for this study. It begins by explaining the purpose of the study, its aims and objectives. It further describes in detail the study design, study population, sampling process, data collection and analysis of data.

3.1 AIMS AND OBJECTIVES

3.1.1 Purpose of the Study:

The purpose of the study was to inform improvements in food-security interventions for PLWHA through an investigation of existing food-security interventions in the Khomas Region, Namibia. The study aimed to answer the research question: how to improve food security interventions in place for PLWHA on treatment in the Khomas Region.

3.1.2 Aim:

To investigate the food security programme interventions in place to improve ARV adherence for PLWHA on treatment at household level in the Khomas Region, Namibia.

3.1.3 Objectives:

- To identify food-security programme interventions geared to improve ARV adherence for PLWHA on treatment at household level.
- To explore the perceptions and attitudes of PLWHA on treatment regarding programme interventions for food security to enhance ARV adherence.

3.2 STUDY DESIGN

A qualitative, explorative, descriptive study design was employed to get an in-depth understanding of programmes in place for PLWHA on treatment and the perceptions of

PLWHA on treatment benefiting from such programmes. The researcher through probing was able to extract meaning from the perspective of the participants regarding nutritional programmes for PLWHA on ARV treatment. Furthermore, the researcher through open-ended questions gained understanding of participant's experiences in taking medication without food and could better understand the constraints experienced by participants in this regard. Qualitative research design focuses on meaning, experience and understanding of an issue or concept from the viewpoint of research subjects in the context the acting takes place – these aspects are qualitative in nature (Toivo, 2005).

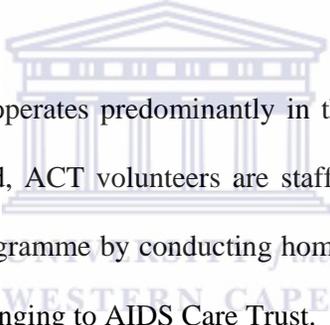
The researcher used techniques such as probing to gain a better understanding of the programmes in place for PLWHA on ARV treatment and participant's views of the programmes. Qualitative research, unlike quantitative research, has the ability to describe in depth the social contexts and experiences of people's lives that strengthen, support or reduce their health (Gifford, 1996). The use of qualitative design, better positioned the researcher to systematically pursue questions which are not easily answerable by quantitative methods (Green & Britten, 1998). The researcher gain in-depth understanding of the difficulty experienced by participants trying to adhere to ARV medication with limited resources for nutritional support and limited support by organizations and the government.

3.3 SAMPLE DESCRIPTION

Data was collected through interviews with five key informants and from five focus group discussions. The focus groups consisted between five and nine participants. Altogether four organizations were selected for the study, from which the key informants and focus groups were selected.

AIDS Care Trust

The key informant interview was conducted on September 26, 2007. The Programme Director as well as the HBC Manager participated in the interviews. Permission was given to the researcher to have a focus group discussion with the support group. The Focus Group Discussions took place on October 10, 2007. Unlike with the Red Cross Society, only one support group was interviewed for this study, and the participants consisted of nine members (four males and five females) of the Tuyakula support group which means 'Heal Us'. The majority of the support group members have been on medication for more than three years, with the exception of three of them who are on medication for less than a year.



The AIDS Care Trust (ACT) operates predominantly in the Khomas Region. Unlike the other organizations interviewed, ACT volunteers are staff members who are responsible for implementing the HBC programme by conducting home visits to clients. These clients make up the support group belonging to AIDS Care Trust.

Catholic AIDS Action

The key informant interview was conducted on September 26 and the focus group discussion took place on October 16, 2007. The key informant for Catholic AIDS Action (CAA) was the Post-Test Club Coordinator who is responsible for providing support for clients who have tested positive, for the formation of support groups and for supporting these support groups. A total of six members of the Tusana Support Group were interviewed, namely: two males and four females. Most of the members interviewed have been on ARV treatment for more than a year.

Catholic AIDS Action is a faith-based organization involved in HIV and AIDS work across the country. It has Home-Based Care programmes in nine regions of the country: Oshikoto, Hardap, Karas, Erongo, Kavango, Caprivi, Khomas, Omusati and Oshana region.

Lironga Eparu

The key informant interview and the focus group discussion for Lironga Eparu were conducted on the same day, i.e. October 16, 2007. It was extremely difficult to secure an interview with the key informant due to other commitments. Immediately after the interview with the latter, the focus group discussion took place. The key informant was the Project Manager together with one of the Counsellors. The focus group consisted of four individuals – two males and two females. All the members have been on treatment for more than two years, and others for more than four years.

The Lironga Eparu is the national association for all people living with HIV and AIDS. It is a very important organization in Namibia as it represents all individuals infected by the virus. Its involvement in HIV and AIDS work is focused on empowering PLWHA through the establishment of support groups across the country.

3.4 STUDY POPULATION

The study population was comprised of people living with HIV and AIDS and are on ARV treatment, belonging to a support group of an organization. The study group had to be part of a support group and on treatment during the study period in August and September 2007. Study populations, as explained by Toivo (2005), are the entire groups, objects or

people of interest to the researcher where the researcher wants to determine some characteristics.

3.5 SAMPLING PROCEDURES

Purposive selection of participants was used to ensure that only participants who are able to provide in-depth information are included in the study. Sampling in qualitative research is not concerned with ensuring that the findings can be statistically generalized to the whole population; rather, it is sampled purposively, with the aim to describe the processes involved in an occurrence, and not its distribution. Cases are therefore identified with the intent to provide a full and rich understanding of all aspects of the occurrence. The aim is thus to select information-rich cases for in-depth studying (Patton, 1990).

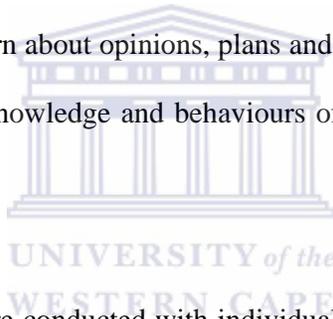
There are several organizations involved in HIV and AIDS work in the Khomas Region. However, only four organizations are actively engaged in food programmes for PLWHA, and participants were selected from these four organizations. The inclusion criteria were adult PLWHA on treatment in the age group of 20 and over enrolled in a support group and preferably participating in income-generating activities. Participants who could communicate in English, Afrikaans or Oshiwambo were selected. Individuals in charge of AIDS programmes and knowledgeable in the study subject were used as key informants, and a group of PLWHA for the focus group discussions was selected from each organization. The organizations were Namibia Red Cross Society, Catholic Aids Action, Aids Care Trust and Lironga Eparu. The researcher had proposed additional key informants from government ministries to be interviewed. However, from the discussions with the four organizations it was clear that additional informants would not add value to the study.

3.6 DATA COLLECTION

Data was collected by employing two techniques – key informant interviews and focus group discussions. Data was collected during the period of August and September 2007, based on availability of the participants.

3.6.1 Key Informant Interviews

The key informants served as an entry point to the data collection process. Appointments were made with the key informants; the purpose of the study was explained to them and permission was sought to interview the support groups. The purpose of key informant interviews is to collect in-depth information concerning a specific topic. Key informant interviews help researchers learn about opinions, plans and knowledge of key people in the research topic and about the knowledge and behaviours of others and the broader system (NEDICO, 2005).



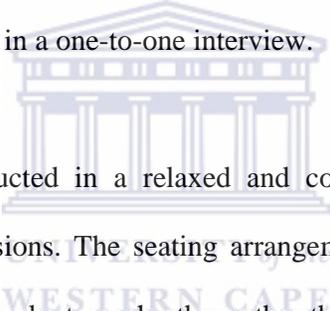
Semi-structured interviews were conducted with individuals who are in charge of the HIV and AIDS support programmes in their respective organizations. These individuals were mainly the HIV and AIDS Coordinators responsible for PLWHA support groups.

A total of five key informants were interviewed. The researcher used probing to obtain clarity and additional information when necessary. The key informants added an advantage to the study by assisting the researcher in obtaining a good understanding of the food security programmes in place for PLWHA and barriers faced by the organizations in implementing such programmes.

3.6.2 *Focus Group Discussions*

A total of five focus groups were interviewed; the researcher had intended for only four to be interviewed – one from each organization – but an additional group was included from the Red Cross Society at the request of the Coordinator.

According to Kitzinger (1995), focus groups are a form of group interviews which benefit from communication between research participants in order to generate data. The technique is mainly useful for exploring people's knowledge and experiences, and can further examine how and why they think the way they do. Through the use of focus groups, not only was the researcher able to generate new and unexpected information, but the group process assisted participants to explore and clarify their views in ways that would have been less easily accessible in a one-to-one interview.



Interview sessions were conducted in a relaxed and comfortable environment, which facilitated good quality discussions. The seating arrangement in a circle established the right atmosphere. Participants spoke to each other rather than to the researcher, which was excellent as it stimulated the discussions which were in Afrikaans, Oshiwambo and English, depending on which language the participants were more comfortable with. The discussions were then transcribed into English after each session.

3.7 **DATA ANALYSIS**

The data analysis was highly dependent upon the skill, vision and integrity of the researcher; it was time-consuming and labour-intensive. The researcher carefully followed the framework proposed by Pope, Ziebland & Mays (2000):

- Familiarization: the researcher listened to tapes, read transcripts and studied notes in order to list key ideas and recurrent themes;

- Identifying a thematic framework: key issues, concepts, and themes were identified, by which the data was examined and referenced;
- Indexing: data was then coded, using numerical codes from the index. All data was indexed systematically with short text descriptors to elaborate the index heading;
- Charting: data was then subsequently rearranged according to the appropriate part of the thematic framework to which they relate, and forming charts.

The researcher mainly used content analysis. “Content analysis is the process of identifying, coding and categorizing the primary patterns in the data”, (Patton, 1990:381). Data was analysed based on general themes identified in a set of data. Specific words were grouped into specific categories, and coded accordingly.



3.8 RIGOUR

Due to the nature and weakness of qualitative research, the researcher vigorously ensured that rigour was upheld. Rigorous qualitative research guarantees honesty about the role of the researcher in the study (Gifford, 1996). The researcher ensured rigour by continuously reflecting on her role and actions in the study and critically scrutinized this to ensure that objectivity was retained at all times. Through the use of memos and testimonials, accountability and transparency were accomplished.

Rigour was further increased through triangulation. Triangulation is using a number of different approaches to get at the same question (Gifford, 1996). Three types of triangulation were used for the purpose of this study – data triangulation, researcher triangulation and methods triangulation. The researcher used various data to explore the perception of participants regarding the food security programmes in place such as their

satisfaction of the programme, areas of improvement and length of stay in the programme. Acknowledging that qualitative research requires experienced researchers, the researcher was assisted by a supervisor who is well experienced in qualitative research to enhance validity. Two types of data collection methods were used namely: key informants interviews and focus group discussions. The information provided by the key informants was compared to the participants' response.

3.9 ETHICAL CONSIDERATION

Ethical approval for the study was obtained from the University of the Western Cape Ethics Committee. The researcher had proposed that permission be sought from the Permanent Secretary of the Ministry of Health and Social Services, but was advised otherwise. Written consent was proposed by the researcher prior to the interviews, but participants were reluctant and provided verbal consent. To strengthen this, the researcher obtained written consent on behalf of the participants from the organizations instead.

The researcher explained the purpose of the study to the participants and how useful their participation would be in strengthening nutritional interventions for PLWHA. Participants were also informed of their right to withdraw from the study at any given time during the interviews without consequences of any sort. It was also explained to participants that refusal to participate in the study would not negatively affect them in any way.

Confidentiality was adhered to at all times; participants were not asked to identify themselves by name. Anonymity was maintained by removing identifiers from transcripts and audio tapes. The tapes and transcripts were kept securely and were only accessible by

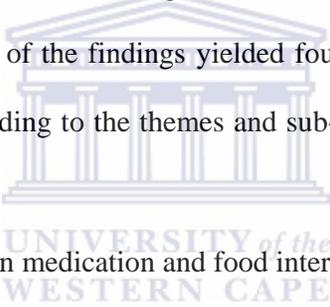
the researcher. A password-protection for all data entered was used and was accessible only to the researcher.



CHAPTER 4

RESULTS AND DISCUSSION

This chapter discusses in detail the results of the study based on the data analysis from the key informant interviews and the focus group discussions. Different semi-structured interview guidelines were used for the key informants and the focus group discussions from the four organizations. Information provided by the key informants was used to triangulate the information provided by the focus groups. As mentioned before, the purpose of the study was to inform improvements in food-security interventions for PLWHA through an investigation of existing food-security interventions in the Khomas Region, Namibia. The analysis of the findings yielded four themes and sub-themes, thus, discussions are presented according to the themes and sub-themes identified. Four themes were identified:

- 
- experiences and views on medication and food interaction;
 - support for people on treatment;
 - food security programmes for people on treatment;
 - views on food security and nutritional support.

4.1 Study Results

A comparison is made between the information provided by the four organizations interviewed. The discussion follows a logical framework based on the four themes identified and the sub-themes.

4.1.1 Experiences and views on medication and food interaction.

The findings of the study reveal that the absence of food when taking medication has adverse effects on participants. Participants expressed how the lack of food when taking medication worsens side effects of ARV medication. Furthermore, the lack of food at times discourages participants to take their medication, which if not dealt with, may in the long term negatively affect adherence rates in the Khomas Region. Despite all the challenges faced by the participants with regard to lack of food and taking medication, participants are extremely thankful to the government for the medication. The positive results of the medication are also evident.

4.1.1.1 Experiences and views on ARV benefits.

Generally, participants are grateful for the introduction of the ARV treatment made possible by the government. One of the female members of the Havannah support group of the Red Cross Society during the focus group discussions took out a photo of how she was before the medication and gave a testimony of how the treatment had helped her:

'I am very grateful to the government. I was very bad before the tablets. I had a swollen eye that was removed because of the disease, but now I am fine. The tablets have greatly improved me.'

Two of the male participants from the focus group discussion with the support group of AIDS Care Trust had this to say:

'We thank the medication. I would have been dead if it was not for the medication. Now I am strong, I can live long.'

'I am now strong. I can work because of the medication that made me strong.'

These testimonies are supported by literature on the benefits of ARV as drugs that prolong the lives of people living with HIV and AIDS. As described in an article by UNAIDS 2005, the introduction of ARV has brought new hope to people living with AIDS, prolonging lives and making HIV and AIDS a manageable disease.

The evidence of the effects of ARV treatment taken by people infected with HIV is incredible. ARV treatment has given hope to people who once thought that it is over. The government of Namibia should be complimented for its commitment to improve the health of people living with HIV and AIDS.

4.1.1.2 Experiences and views on ARV side effects

Participants complained of side effects caused by the medication, such as diarrhoea, vomiting, dizziness, skin rashes and pimples. Two female participants from the Red Cross Society support group had this to say during the focus group discussions:

'The medication is too strong. Some of us also have diabetes, and the combination is severe.'

'At first when I started, I used to get confused because of the medication. I would get dizzy, vomit and be nauseous. I also get hungry quickly.'

Two other females from Catholic AIDS Action expressed their experiences during the focus group discussions:

'The tablets give me appetite. You can eat but you don't get satisfied. It requires people to eat three times a day.'

'Treatment makes you eat a lot. After every two hours I am constantly hungry.'

These sentiments are confirmed by a study conducted in Botswana that found 51% of the respondents complaining of side effects associated with ARV therapy (Weiser et al., 2003). A study conducted in South Africa and reviewed by the World Health Organization, further confirms the views of the participants. The study found that in a number of case respondents, treatment with ARV made people hungrier but they could not afford the cost of buying additional food (WHO, 2006).

In a study conducted in Tanzania, Botswana and Uganda, results indicated that hungry people are inclined to stop taking ARVs because they cannot afford to feed themselves as the demand for food increases (WHO, 2006).

It is apparent that side effects are common among patients on ARV treatment, as illustrated by the respondents and confirmed by the literature. Most of the side effects complained by the participants were the increase of appetite caused by the medication. Although side effects are common, it is important to manage it well and for patients to be sensitized about it before commencing treatment to minimize any possible discontinuation of treatment.

4.1.1.3 Experiences and views on medication without food

During the focus group discussion with support group members of the Red Cross Society, female participants were very strongly opinionated about the importance of food and medication:

'Food is the very most important thing.'

'We have no choice but to take the tablets without food. I normally first give my children Oshikundu or watery porridge (so it can last the whole day) so they can drink their tablets. If there is any left then I also drink the Oshikundu so I can take my tablets. But it is not always enough, so I sacrifice it for my children and I often take my tablets on an empty stomach.'

One of the male participants of the Red Cross Society support group had this to say during the group discussions:

'The medication is very strong and you cannot make it without food. We get food with difficulty, yet we need to take medication.'

Another male participant from the AIDS Care Trust support groups during the focus discussions expressed his difficulty:

'There is a difference between a HIV positive person who works and those who don't work. Those who work can continue with their lives as usual, eating nutritional food as explained at the hospital. Some of us are suffering because of poverty. We know what to eat but don't have the money to buy the food. What does that help?'

A mother of two children, who are both infected with the virus, is part of another support group of the Red Cross Society, and she shared her experience during the group discussions:

'At one time, I took medication without food because I gave the only porridge left to my children so they can at least eat and take the medication. I became very dizzy, fainted and was rushed to the hospital.'

Another female participant of the same support group had this to say:

'We take medication on hungry tummies. You end up just sleeping. There is nowhere to get food.'

Female participants from Catholic AIDS Action had the following to say during the group discussions:

'The medication requires food. When you move and progress, there are changes and more food is required.'

'When you don't eat you get dizzy. The medication is very strong and requires food that is enough.'

'I know the type of food I should eat and should not eat, but I don't have money to buy the nutritional food they talk about.'

'When you don't eat and take medication, you feel bad and get discouraged to take further medication.'

These experiences of taking medication without food are shared elsewhere on the continent. In an article about Zambia, lack of food was cited as undermining the benefits of ARV treatment. As explained by the former health minister of Zambia, *'taking ARV without food only compounds the problem...'* (IRIN, 2006).

Additionally, literature indicates that there is an improved outcome for patients who take medication with food; the contrary is also true that there is minimal improvement for patients who take medication without food, thus underpinning the importance of nutrition in the era of treatment (IRIN, 2007). Dr Rollins of the Maternal and Child Health unit of KwaZulu Natal is of the opinion that good nutrition and ARV treatment are equally important, and there should be no debate about it (Green, 2005).

According to the participants, both male and female from all the support groups of the four organizations mentioned during group discussions that side effects are worsened if medication is taken without food:

'Side effects from the tablets make you confused, but especially if you take medication without food the confusion is worse, not to talk about diarrhoea, vomiting and dizziness.'

'I get dizzy, I vomit and am left with no strength when taking medication without food. The medication does not do anything for you if you don't take it with food. When you eat well your CD4 count goes up. Often you get discouraged if the CD4 is low because of no food.'

'Food has been a problem, I faint if I don't eat food when taking medication.'

'I am used to it now, I drink even without food, it makes you drunk and confused. I drink lots of water to try to have something in the stomach.'

'I take medication at 7 o'clock. I get headaches if I don't eat while taking medication. I try to at least get milk to drink to help me, but it is difficult. I used to drive trucks, but now I am too weak and can no longer drive.'

The views of the participants underpin the importance of food to enhance the effectiveness of the ARV therapy. It is clear that food is a need for people on treatment, which cannot be ignored. Participants know the nutritional requirements to adhere to treatment, but they become frustrated with the challenge to ensure that they meet those requirements. It is apparent that participants are faced with a great challenge to manage the additional appetite caused by the medication. In the midst of hunger, participants are forced to continue taking medication to stay well which, in the long run, may affect adherence.

However, it is possible that the participants, cognizant of the fact that the researcher was interested in assessing ARVs and food, over-emphasized the importance of food. Furthermore, it may even be that participants specially emphasized the importance of food in the hope that something would be done about their situation. These could be regarded as possible limitations to the study in the form of biased information provided by the participants.

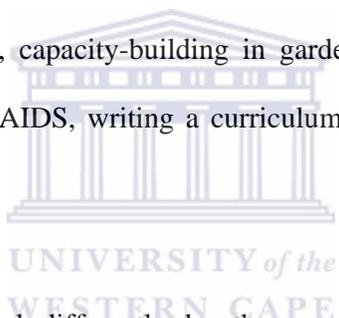
4.2.1 Support for people on treatment

Participants received support from the four organizations, government, family members and other food security programmes. Discrepancies were noted of the support provided to participants as explained by the organizations compared to the actual support received by the participants. The discrepancies as explained by the organizations are mainly due to the

termination of support as a result of discontinued funding by donors. The social grants from the government are well appreciated by the participants and enable the participants to buy food to take their medication.

4.2.1.1 Support from organizations

Generally, all the organizations – some more than others – have basic support programmes for PLWHA through their established support groups. Support programmes include: pre- and post-test counselling on HIV and AIDS, adherence counselling, peer education, social support in the form of coffins when clients pass on, clothes and blankets, transport to and from the hospital, educational sessions on PMTCT, human rights, body mapping (assisting clients to express themselves), capacity-building in gardening, music therapy, proposal writing, nutrition & HIV and AIDS, writing a curriculum vitae, gender and IGA's; STI tests and nutritional support.



Nutritional support is provided differently by the organizations. For example, ACT provides food parcels consisting of sugar, maize meal, cooking oil, oats, fish tins, rice, rooibos tea, beans, tomato sauce and soup packets; whereas organizations such as CAA and Lironga Eparu provide nutritional support through refreshments (a meal consisting of starch, vegetables, meat, fruit and juice) when support group members attend the weekly support group meetings. The Namibia Red Cross Society, on the other hand, distributes a nutritional supplement called Epap to its members.

However, information provided by participants of the focus group discussions is not consistent with the above information provided by the key informants. As expressed by two of the female Red Cross support group members during the group discussions:

'There is no nutritional support. Sometimes the Red Cross gives us Epap. Our group leader helps us very much from her own food. She goes out of her way to help us. Without her, we don't know where we would have been.'

'At the end of each year, the Red Cross would give us sweets, soap, candles, savlon and food. This makes us feel good, think less and enables us to give to our children sweets to make Christmas joyous. We hope this will continue this year because last year we did not get the parcels.'

Two females of the AIDS Care Trust support group reported the following during the group discussions:

'Yes, ACT gives us maize meal when available. Some of us benefit more than others because we don't all meet the criteria. They only give us maize meal, but than we don't have someone else to give us the rest such as vegetables and meat.'

'ACT assists with transport at times for those who take their medication at Katutura hospital. The assistance is not constant, and we need a driver with manners.'

Two male participants of the same support group had the following opinions:

'Food is not always provided by ACT and when it is, it depends on those who need it the most.'

'I only received a plastic bag of maize meal from ACT. It is not enough, and I cannot always drive my taxi because I am weak and have no food.'

Opposed to the above remarks, female members from Catholic AIDS Action and Lironga Eparu stated the following during separate group discussions:

'We benefit with food from CAA when we are at workshops; at least we are then able to eat three times a day. We meet every Tuesday to talk and to be taught. They give us taxi money to go back.'

'I get help with formula from Lironga Eparu; I have a baby. We will get food parcels each month as from September; currently we get refreshments when we come for the support group meeting.'

'We do get information from LE on nutritional food. It depends on you to get nutritional support; if we had that food, our CD4 counts would be higher.'

One of the key informants from AIDS Care Trust, the HIV Manager, tried to explain that not all the participants of the study are beneficiaries of the support provided by the organizations:

'ACT provides nutritional support to its support members. However, not all the beneficiaries are present to participate in the study.'

The Red Cross HIV Manager explained that some of the support for the support groups was terminated because of financial constraints:

'We operate according to budgets funded by donors, so some of the support I mentioned may have come to an end. I am not able to say which support, as I am also new.'

It appears that there are discrepancies in the services provided by the organization as claimed, compared to the actual services received by the support group members. With particular reference to food and nutritional support, it seems that support is not properly structured as a programme, but rather dependent on availability of resources, which is not sufficient for the support group members. Members are clearly frustrated over the current support they are receiving. Explanations provided by key informants on the perceived discrepancies are based on the fact that most of the participants interviewed were either new or the support from the organization had ceased.

4.2.1.2 Support from government

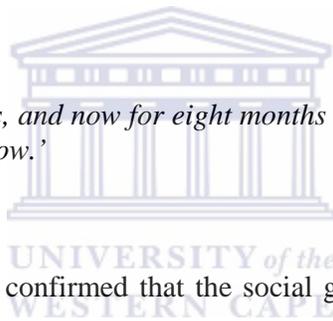
In general, support from the government has been in the form of pension or social grants to PLWHA. Most of the participants confirmed that they received support from the government. However, the support seems to have stopped. According to the Project

Manager of Lironga Eparu, social grants provided by the government are given to patients when their CD4 count is very low and are regarded as AIDS patients. When the health status of patients improves, the grant is discontinued. The problem, however, as explained by him, is that the patients are not properly informed how the grant operates. During the separate group discussions, both male and female participants from the four organizations bitterly expressed their disappointment with the discontinued social grants from the government:

'We have been taken off the pension, the pension is no longer.'

'I can no longer be on pension...now I suffer; I can't buy food for medication, paying rent or pay school fees.'

'I was on pension for two years, and now for eight months I no longer get pension and it is very difficult. I am very weak now.'



At the same time, participants confirmed that the social grants were helpful and assisted them greatly. As illustrated by the female respondents of the Red Cross, Lironga Eparu and Catholic AIDS Action:

'Some of us used to get a pension of N\$370.00 per month, from the government for two years and others for three months. During those years life was good as we could buy food and take our tablets, but this has stopped and it is not clear why.'

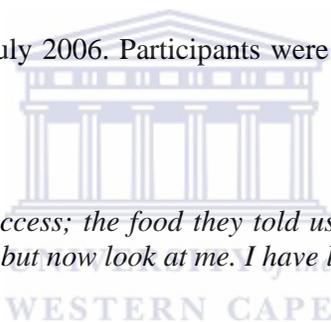
'When I used to get a pension, I would take from that, buy material and sell, and get money to buy food and other necessities.'

'I used to get a pension that was very good because I could buy food and take my medication. I was later taken off from the pension. My doctor told me it was because the government bought the medication.'

It is clear from the above remarks by participants that the social grant given to AIDS patients is very helpful. The social grant provided the participants with opportunity to purchase food to take their medication and most importantly, participants could afford to buy the nutritional food as explained during nutritional counselling at the hospital and by the organizations.

4.2.1.3 Support from other organizations and networks

Participants reported support from other organizations as well as family members. Most of the participants received support from the Pharmaccess programme that was at first administered by the Red Cross Society and later by Lironga Eparu. The programme was for three years, and ended in July 2006. Participants were very satisfied with the support, as confirmed below:



'Life was good during Pharmaccess; the food they told us to eat was what they provided for us. Then I was nice and fat, but now look at me. I have lost weight since the programme ended.'

'I used to get one month's food supply for my household, consisting of 12.5kg maize meal, eight tins of fish, sugar, cooking oil, salt, cabbage, beans, oranges, potatoes and 1kg bread flour. During that time my CD4 counts were high. Before I started on the programme, my CD4 counts were 191; they increased to 341 because of the food, and it has now dropped to 266 because of lack of food.'

'I survive with my mother when she sends food (Mahangu, which is millet) from the north, and it is not often. My mother does not work, but is trying.'

'I depend on my sister to assist me, but she also has her dependents'.

The Pharmaccess programme has unfortunately ended and funding could not be secured for continuation. The Programme Manager of Lironga Eparu described the programme as very expensive and not sustainable. Although the programme may have been expensive,

the programme provided participants and their households with the required nutritional food. Of which the effect of the programme on taking medication and reducing side effects was positive.

4.3.1 Food security programmes for PLWHA on treatment

Participants have initiated their own income generating activities to improve their food security condition which in turn will enable them to buy for food for their medication. On the other hand, the four organizations are trying their best to address the participant's food security; however, funding constraints are limiting their efforts.

4.3.1.1 Food security initiative by organizations

By and large, key informants of the different organizations were in agreement that food security is vital to ensure ARV treatment adherence. However, organizations are faced with challenges to initiate sustainable food security programmes for their support group members. As explained by the Khomas Regional Manager, *'the Red Cross is, unfortunately, not in a position to sustain food security for PLWHA, although it is of utmost importance to ensure treatment adherence especially since clients experience a lot of side effects which can be minimized and properly managed with food security.'*

The above comment is further substantiated by the Director of AIDS Care Trust: *'Nutritional support to clients is a challenge; the clients are too many and funding is limited. As a result we are unable to give all the clients food supplies every month but have to give to those most in need.'*

Moreover, the Khomas Region as an urban area poses greater challenges compared to rural areas. As confirmed by the National Income Generating Activities Manager of the Red Cross Society:

'Urban people have a higher expectation compared to people in the rural areas. Planned gardens have failed due to lack of commitment from volunteers, and limited water. However, the Red Cross has other successful IGA's in rural areas such as the Kavango Region ranging from crop production to tourism and aquaculture.'

Additionally, key informants were in agreement that the Khomas Region poses great challenges of establishing vegetable gardens compared to other regions; the IGA Manager of the Red Cross Society, for example, cited water as the greatest challenge:

'Lack of adequate water is the biggest challenge to establish backyard gardens in the Khomas Region.'

This response was further supported by one of the male support group members of the Red Cross Society:

'Water is a big problem. If you start a vegetable garden then you need enough money to pay the water bill. It is very expensive.'

Shading, on the other hand, was cited as a big challenge by the Director of AIDS Care Trust:

'Our previous vegetable garden failed because of no shading. In the absence of shading, the vegetables are destroyed and nothing is harvested.'

Although it is a challenge for organizations to initiate food security programmes, some of the organizations have commenced with the process. At present, the Red Cross has four income generating activities in the Khomas Region through tuck shops as a measure to address the issue of food security for clients. The organization supplies the tuck shops with

goods, of which the profit contributes to the social assistance fund used for supporting the clients. A certain percentage, as explained by the IGA Manager, is given to the volunteers as incentives. These tuck shops have been in operation since 2005.

The Red Cross IGA Manager described other efforts such as supporting the volunteers by awarding them catering tenders during training workshops. The Regional Manager explained that volunteers are in charge of the support groups by facilitating the groups, and the money generated from these efforts is used to acquire food and other necessities for their clients. The profit generated from the efforts is, however, meagre and cannot entirely translate into improved food security. Another reason for the slow improvement is that volunteers lack the skills to manage the income of the projects effectively.

Furthermore, AIDS Care Trust started IGAs in 2004, particularly in crafts, beadwork and sewing. To date, clients have participated at the International AIDS Conference to sell their products, and produce AIDS ribbons for major companies such as the Cancer ribbons for the Cancer Association which enables them to earn up to N\$3 000. However, not all clients are involved in these IGAs.

Compared to the Red Cross and ACT, Lironga Eparu and CAA are in the infant stage. Lironga Eparu reported a gardening project at the office cultivated by support group members. CAA also has a vegetable garden and is financially supporting initiatives by support group members and, although minimally, assists members with marketing their products. Participants belonging to the Lironga Eparu support group have started benefiting from the vegetable garden. The produce is however not enough for all the

support group members. The CAA vegetable garden was started recently and no participant has yet benefited from the garden.

Participants of the focus group discussions could not, however, confirm all the information provided by the key informants of the different organizations. Some complained of empty promises by the organizations whilst others were simply not aware of the initiatives. As illustrated below by a male respondent of the Red Cross Society during the group discussions:

'We cleaned the area, as we were told by the Red Cross that they would buy us the equipment, but the idea died down and no assistance came.'

Nevertheless, organizations have great programmes planned for the future. The Director of AIDS Care Trust explained that, as part of a new venture with FAO, clients will receive training from FAO to cultivate their gardens, sell their produce and also eat of the produce. Additional training will be provided by ACT in project management and finance. Shading will be provided to make the project more viable. Since the initiative is new, only 50 people will be involved to ensure sustainability. This will be a common garden to be replicated at the homes of the clients.

CAA, on the other hand, is in the process of exploring and expanding the market of clients' products beyond customers such as banks and universities. Lironga Eparu has major programmes lined up which include capacity-building for clients in medium enterprising, a green scheme project to cultivate vegetable gardens, aquaculture, and also to facilitate a process for round-table discussions with developing partners, government and people living with HIV and AIDS.

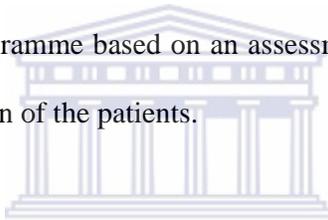
The findings discussed above are not confined to Namibia only. Literature indicates that there is minimal progress made to integrate food programmes in existing HIV and AIDS programmes. According to Gillespie and Kadiyala, 2005, there is not much evidence of food security programmes apart from nutritional supplements provided to HIV clients, nutritional counselling and distribution of food parcels. The interventions provided by the four organizations could be categorized according to the three main nutrition interventions, namely: nutritional counselling; targeted nutrition supplements and linkages with food-based interventions (Gillespie & Kadiyala 2005). The following is a table indicating the type of interventions implemented by the four organizations:

Table on food interventions as per organizations

Name of intervention	Name of organization
Nutritional counselling and supplement	CAA, Lironga Eparu
Nutritional supplement	NRCS, ACT
Linkages to food-based interventions	None

Below is an example of a successful food security project to which the researcher was exposed in her capacity as the monitoring and evaluation manager of the programme in 2003. The project was implemented as a pilot programme introducing ARVs in a resource-limited area in the north-eastern part of Namibia – Caprivi Region – from 2003 to 2007. The project, called the Mapilelo Project, had five components in total (clinical, social mobilization, food security, home-based care and voluntary counselling and testing) implemented by four organizations (MoHSS, Namibia Red Cross Society, Africare and Social Marketing Association). The food security component of the programme was divided into two phases of food security: acute and chronic. The acute phase, implemented

by the Namibia Red Cross Society, ensured that patients started on ARV treatment received food rations for six months, after which they were shifted to the chronic phase of the programme. The food rations consisted of Epap (a nutritional supplement), fish, maize meal, sunflower oil, sugar, beans and rice each month for the household. In the chronic phase, patients were linked to long-term food security projects implemented by Africare, such as vegetable gardens, poultry farming, maize production, etc. At this point, the food rations were discontinued and patients had to survive from their own produce. These projects were done in groups as part of the support group initiative. Funding as well as training in project management was provided to the groups, with extensive monitoring by the project staff. Nutritional counselling was provided at the ARV clinic before patients were enrolled on the food programme based on an assessment conducted by the nurses to assess the food security situation of the patients.



It appears that substantial efforts have been made by organizations in nutritional counselling through educational sessions as mentioned by CAA and Lironga Eparu. Furthermore, it is apparent that nutritional supplements are minimal and linkages to food-based interventions are non-existent, with only the Red Cross reporting provision of Epap, a nutritional supplement, and the rest providing either food parcels or refreshments.

There is, however, room for improvement for these organizations in providing nutritional support by using the above example of the Mapilelo project. At present, nutritional counselling is focused only on educational information, with emphasis on what types of food to eat and not to eat. Possible inclusion for organizations regarding nutritional counselling could be in-depth counselling, focusing on nutritional management, i.e. the interaction of food and medication. Additionally, nutritional supplements could include

Epap or food rations provided to participants for a specified period of time whilst working on linking participants to food-based interventions.

4.3.1.2 Food security initiative by support group members

Most of the support groups interviewed had initiated their own income generating activities, whilst others are thinking of starting similar activities. The common activities include needlework, beadwork, selling meat, sweets and traditional drinks. These activities are done under extreme difficulties, as confirmed by the remarks of the female participants of the four organizations:

'We sell sweets to get money so we can have something to eat. We struggle.'

'We try. We sell bread, bananas and kapana. The difficulty is the fire and smoke; it reduces the CD4 counts and you end up leaving everything because of this.'

'Some of us can make clothes, do household help and catering, but capital is a problem. Currently I do it on a small scale.'

'I make peanut butter; all I need is a bar code machine. I take my produce to the laboratory, and I need to seal it and get a machine for packaging. I can create jobs for others and we can assist others as well.'

'I used to sell vetkoek, but I need financial assistance. What CAA does is just workshops. My water is cut. We need to be supported to support ourselves.'

'When I have strength I sell Kapana, but fire is a problem as it weakens me.'

'As much as we would like to start our own IGA without financial support, it is very difficult. On the other hand, some of our members are often in and out of hospital, making it difficult for them to participate in any of the planned initiatives and they will therefore not benefit if it kicks off.'

'We are all unemployed and find it difficult to get jobs because of our HIV status. One of the members lost her job because the employer discovered that she was positive and

dismissed her. So we can't just sit and wait for the Red Cross to do something, we teach each other how to do needlework so we can sell and make money.'

Participants are often discouraged from continuing with their activities because of the severity of the working conditions and the attitudes of the community. As demonstrated:

'People don't want to buy from positive people because of fear of getting infected.'

'Poverty makes our CD4 count go down, yet we cannot do hard work because we get tired easily and get diarrhoea. We are happy for the treatment, but people will continue dying because of poverty.'

'I have tried to make kapana to sell so I can take my medication, but this has proven to be very difficult because of long hours in the smoke, which is also not healthy for me.'

'We need to do needlework. However, we don't have the strength; you work, but you sometimes don't get money.'

Clearly, participants are desperate and have initiated their own income-generating activities to make sure that they have food to take with their medication. However, these initiatives are small-scale and need external support from the organizations. The four organizations have an opportunity to build on the initiatives of the support group members and improve the food security situation of their support group members.

4.4.1 Views on food security and nutritional support

The views expressed by the participants on the current food security programmes, provides an excellent opportunity for organizations to draw from and develop sustainable and comprehensive food security programmes.

4.4.1.1 Dissatisfaction of current support

Participants were all in agreement that it is not enough to be knowledgeable about food nutrition as a person living with HIV and AIDS and on treatment. They expressed the need for organizations to increase their efforts to support them more:

'The three months' supply of Epap from the Red Cross is not enough due to lack of food in the house. The whole family eats, and it lasts only two months.'

'ACT should assist the support group with equipment so members can get money and assist each other.'

'They need to make sure that all have received food; they have our details, and they should check who has received food and who has not, and inform us so we can get our food and not wait for us to come to the office.'

'We have received much training from CAA in business, which has helped us gain knowledge. Now the assistance needs to come. We have the strength to work for ourselves.'

The view expressed by the participants provides critical information for programming. The participant's views could be categorized in three: the need for household based and not individual based support, comprehensive support and equitable support. Food provided to the individual is evidently not helpful as participants are forced to share it with family members. Thus programming for food security programmes should engage a household approach i.e. addressing the food security needs of the household and not the individual. Secondly, programming for food security programmes should be holistic in the sense that it addresses all aspects of food security. The above findings show that the current programmes have emphasised nutritional counselling without providing nutritional food or the means to acquire nutritional food. The result is that participants are frustrated and fed up. Lastly, support should be distributed equally amongst participants to ensure that all support group members are benefiting from the programme.

4.4.1.2 Recommendations for improved support

Participants had very strong views on recommendations for food security and nutritional support. Most men strongly believed that the only way out is to assist people living with HIV to work and get money so they can help themselves. As illustrated:

'The government needs to support its people by giving them work; more people are getting infected. It's now eight months since I don't work. I have the strength to work.'

'We don't only need food, we need money because we have other needs such as transport to fetch the tablets, pay our children's school fees. The government should give us jobs even if it is only cleaning.'

Others felt that food was a better option than working, as demonstrated by their comments:

'We don't have energy to do gardening; the sun will burn us; we need food.'

'It will be good if we get food parcels instead of refreshments so we can have food to eat while taking medication.'

'Since most people are not able to work, it is best for the Red Cross to rather give food.'

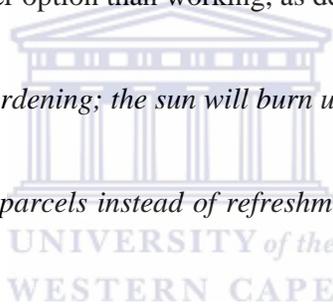
'People are currently not strong enough to work, but if the Red Cross can start by first giving food, people will get strong and participate in IGAs.'

Other members strongly believed that the government pension scheme is the best solution:

'The government should start giving pensions again, giving every positive person and not only those on treatment because the other's CD4 counts will go down.'

'For us, the elderly, and those who are weak, we should go on pension.'

'Reinstall the pension, it will assist us greatly.'



Asked why they prefer working and getting a pension, participants had this to say:

'The government has tried to get us free medication. However, we still need to pay N\$10 to get the medication, which is not a lot if we have work.'

'Where I get my medication it costs N\$15. If you don't have it they will not give you the medication, then you default.'

'With money you can buy food and pay for your medication.'

Most of the recommendations were, however, directed to the organizations. The following are the recommendations:

'Yes, we can and will continue with our needlework and other activities, but organizations need to get us customers. We need a market and a place to do all this.'

'All I know is that the government and Red Cross need to do something urgently about this, lest we die.'

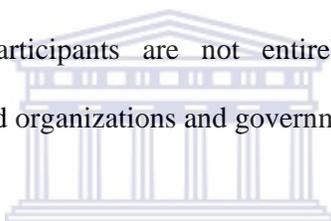
'The Red Cross should give us enough food so we can share with our household. Food for us alone will not be enough.'

'We can be given loans or grants to assist us with our IGA. It is very frustrating; people misuse us; they take advantage of us; money comes in but we don't benefit.'

It is obvious that people are desperate for any type of assistance as long as they are able to take the medication with food to minimize the side effects. The fact that members continue taking medication and endure its side effects without food is a good indication of commitment to treatment adherence. It is also evident that food is not the only necessity, but needs such as clinic fees and transport fees are noticeable. The suggestions by the participants can be summarized as follows: government need to seriously look into the situation of PLWHA by creating job opportunities for them; furthermore, government should reinstate the social grant scheme to PLWHA to enable them to take medication with

food; nutritional support either from government or non-governmental organizations should be encouraged by all means; and current food security programmes should be strengthened to include tangible support such as equipment or loans to PLWHA involved in income generating activities.

In conclusion, the results indicate that there are minimal food security programmes in place for PLWHA on treatment. However, initiatives are underway to expand existing programmes. Moreover, existing programmes are mainly concentrated on educational sessions on nutrition which is only part of nutritional counselling with minimal programmes providing nutritional supplements. Linkages to food-based interventions are not evident. Additionally, participants are not entirely satisfied with the current programmes and have requested organizations and government to intensify their efforts.



The following are lessons learned from the current programmes in place:

- Food security in the Khomas Region is possible but requires considerable effort and proper planning and programming.
- Urban areas pose different challenges to ‘traditional’ interventions for food security, thus calling for innovative programmes.
- Proper budgeting and projections are needed to adequately address the food security of PLWHA and their households.
- Increased donor funding is needed to provide comprehensive food security programmes to PLWHA on treatment.
- PLWHA should be included in the planning and programming of food-security interventions.

- The government has an important role to play in food security programmes for PLWHA and should work closely with the non-governmental organizations.
- Embarking on a multi-sectoral approach to food security may be the only solution to the nutritional needs of PLWHA.

Finally, there is much that organizations can learn from the Mapilelo project, with specific emphasis on nutritional supplements and linkages to food-based interventions. At first, it is important for organizations to seek funding for nutritional support as part of the HIV and AIDS programmes as this will enable organizations to provide proper and consistent – not haphazard – nutritional support. Secondly, organizations should have a plan in place of how nutritional support would be provided. Nutritional support can be done by providing adequate nutritional supplements to the household such as food rations for a specific period of time to minimize dependency. Short term food rations can then be followed by either linking participants to other organizations that have long-term food-security interventions or assist participants with the necessary equipment, funding and market for their produce with a proper monitoring system in place to continually upgrade the programme.

The study was, however, limited in many ways. Two study limitations were identified: data and sample size. Firstly, the data is unable to adequately provide an overview of the perceptions and views of PLWHA on treatment involved in food security programmes. For the reason that there are limited food security programs in place in the Khomas Region and secondly most of the participants interviewed could not entirely provide substantial information on the current programmes. This may be explained either that the information provided by the key informants is biased or the wrong people were included in the study. The latter is highly unlikely as participants were selected by the key informants. The

second limitation concerns the sample size that is too small to generalize the findings to the rest of the country. This limitation is a result of budget and time limitations.



CHAPTER 5

SUMMARY OF FINDINGS AND RECOMMENDATIONS

The previous chapter presented and discussed in detail the findings of the study. This chapter will provide a summary of the findings, recommendations based on the findings and provide actionable conclusions to the report. The purpose of the study was to inform improvements in food security interventions for PLWHA through an investigation of existing food security intervention in the Khomas Region, Namibia. The study aimed to answer the research question: how to improve food security interventions in place for PLWHA on treatment in the Khomas Region.

In an attempt to answer the research question two objectives were identified the summary of findings is thus presented according to the objectives of the study:

- To identify food security programme interventions geared to improve ARV adherence for PLWHA on treatment at household level.
- Explore the perceptions and attitudes of PLWHA on treatment regarding the effective implementation of programme interventions for food security to enhance ARV adherence.

5.1 SUMMARY OF FINDINGS

The findings of the study suggest that the participants are knowledgeable of the importance of food nutrition as an important factor for treatment adherence. This is a good indicator as it suggests that the fundamental groundwork has been initiated. Additionally, participants were knowledgeable of the types of food to eat and not to eat; however, participants are faced with a challenge to acquire the nutritious food they have been taught so they may

adhere to their medication. There is thus a gap between the knowledge of participants and programmes in place to facilitate a process of realizing their knowledge.

The results further indicate that there are minimal food security programmes in place for people on ARV treatment. Based on the discussions presented in the previous chapter, attempts from the four organizations are being made to put in place interventions that will facilitate a process of enhancing treatment adherence for members of the support groups. However, organizations are faced with major challenges of funding and proper programming.

The Namibia Red Cross Society has the following interventions in place:

- Tuck shops operated by the volunteers of which the profit is used to assist clients with food to take their medication.
- Tender caterers for volunteers to provide catering at training workshops, the money helps the volunteers who are also HIV positive and some on treatment and also to assist their clients to buy food to take medication.

The AIDS Care Trust has the following interventions in place for their support group members:

- Vegetable garden is underway as an income generating activity for support group members to provide clients with food to take their medication.
- Income generating activities such as crafts, beadwork and sewing that generates income for the clients that can assist them to pay for clinic fees and most importantly buy food to take their medication.

Catholic AIDS Action has the following interventions in place:

- CAA is in the process of setting up systems that will support the initiatives of the support group members.
- A vegetable garden has been initiated with the idea of providing clients with produce from the vegetable garden to support clients to take their medication with food.

Lironga Eparu cited the following:

- Plans are underway to train clients in medium enterprising to start up small business such as aquaculture and vegetable gardens.

The findings also reveal that there is a discrepancy between what is in place for participants and what the participants are aware of. This was particularly the case for AIDS Care Trust and Namibia Red Cross Society. Participants could not entirely confirm the income generating activities supported by the organization and other interventions for nutritional support. The explanation for this was that funding had ceased resulting in the termination of support.

The findings of the study further reveal that participants are not particularly impressed with the programmes in place for them. There was a clear sense of frustration from participants especially the support group members of Catholic AIDS Action. Participants felt that they were equipped enough to start income generating activities that will improve their food security to enable them to take their medication with food. However, the means to start the income generating activities were not available.

Finally, the findings of the study suggested possible ways of improving food security interventions for PLWHA on ARV treatment. Food security interventions should adopt a household approach and address the food insecurity of the household and not only the individual living with HIV and AIDS. The person living with HIV and AIDS belong to a family unit and should be seen as part of the family. Furthermore, organizations should provide comprehensive food security programmes that include a combination of different interventions that would address food insecurity holistically. At present, food security programmes emphasise on nutritional education with minimal nutritional such as nutritional supplements or linkages to other food-based interventions. An added suggestion includes equitable distribution of nutritional support. Organizations should ensure that interventions are equally distributed between beneficiaries.

The study additionally highlighted lessons learned from the current food security interventions which further provide organizations with opportunities to strengthen and improve the current interventions. Based on the lessons learned, organizations are encouraged to plan and develop innovative programmes suitable for the Khomas Region in particular. Planning for food security programmes should involved proper budgeting and realistic projections to adequately address the food security of PLWHA and their households. This calls for increased donor funding to provide comprehensive food security programmes to PLWHA on treatment. Planning for food security interventions should include PLWHA to enhance evidence-based programming. The government has an important role to play in food security programmes for PLWHA and should work closely with the non-governmental organizations. And finally, embarking on a multi-sectoral approach to food security may be the only solution to the nutritional needs of PLWHA.

5.2 RECOMMENDATIONS

The recommendations are explained according to the 3 main interventions for nutrition and food interventions that emerged in the literature review. Following are the recommendations as indicated by the participants:

Nutritional counselling

- Supplement group nutritional counselling with individual counselling to ensure that individual nutritional needs are met.
- Strengthen existing counselling by developing a monitoring and evaluation plan to assess effectiveness.

Nutritional supplements

- Provide consistent food supply to people on ARV treatment to assist them take their medication, and minimise the side effects associated with taking ARV treatment without food.
- Provide food supplies to people living with HIV and AIDS without differentiating from those on ARV treatment and people not on ARV treatment. This is particularly important as people not on treatment yet need nutritious food to continue boosting their immune system and prolong their time to progress to treatment.
- Develop a household approach to food security interventions by ensuring that food rations are given in proportion to the household and not only the client.
- Develop a plan of how people will be weaned off from the program but at the same time ensure that there is an income generating program that people are enrolled into to become more sustainable.

Linkages to food-based interventions:

- There is need for HIV and AIDS programmes to enter into dialogue with agricultural programmes to see how PLWHA can benefit from food-based programmes.
- Provide financial support either through loans or grants to income generating activities initiated by people living with HIV and AIDS.
- Provide a market place for products manufactured or produced by the income-generating activities.

General Recommendations:

- The government should develop a national strategy for food security interventions for PLWHA that will guide all parties involved in food security interventions in the country.
- The pension scheme of the government should be explained to the beneficiaries, providing a follow up programme when individuals are weaned off the scheme.
- The pension scheme or social grant provided by the government should be provided to all PLWHA with a proper plan to integrate beneficiaries into long term food security programmes.
- Integrate a monitoring and evaluation component to these programmes to continuously monitor the progress of the programme and provide evidence based programmes.

5.3 CONCLUSION

In conclusion, the findings of the study suggest a greater involvement of the government in addressing food security of PLWHA and their households. The need for government to

work closely with non-governmental organizations in addressing food security needs of PLWHA is perceptible. In particular, the pension scheme for PLWHA administered by the government would require a process of review to identify possible ways of improvement and strengthening. Moreover, referral systems between government and non-governmental organizations would need strengthening to ensure continuum services for PLWHA in addressing food security. Guidelines for Antiretroviral Therapy (ART) and Home Based Care for PLWHA would need to be revised to include strategies of addressing food security for PLWHA. This will facilitate the process of integrating food security programmes into HIV and AIDS programmes. Existing food security programmes would be guided by the revised guidelines for ARV and would be standard for all organizations involved in food security. The efforts to develop strategies for addressing food security for PLWHA would require a multi-sectoral approach including the involvement of donor agencies in the country.



The guidelines for addressing food security needs of PLWHA should address participant's views on food security as indicated by the findings of the study. The views of the participants are summarized as follows: government need to seriously look into the situation of PLWHA by creating job opportunities for them; furthermore, government should reinstate the social grant scheme to PLWHA to enable them to take medication with food; nutritional support either from government or non-governmental organizations should be encouraged by all means; and current food security programmes should be strengthened to include tangible support such as equipment or loans to PLWHA involved in income generating activities.

The above suggestions by the participants provide possible ways of strengthening existing food security programmes. The findings therefore suggest that the most effective way of improving food security interventions for PLWHA requires a multi-sectoral approach. Food insecurity should therefore be seen as a developmental issue that requires the collective involvement of all sectors. Organizations working with PLWHA should actively advocate for the inclusion of food security as a national priority.



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APPENDICES

APPENDIX A

INTERVIEW GUIDE – KEY INFORMANTS (Programmes)

1. **What type of support do you provide to PLWHA?**
 - If food/nutrition support is not mentioned, ask specifically for food support.
 - If food/nutrition support is mentioned, ask interviewer to explain in detail.
2. **How are beneficiaries identified for food/nutrition support?**
 - Ask if support is provided for the household or only for the individual.
 - Ask if PLWHA on treatment are given preference for food/nutrition support.
3. **What type of income-generating activities is your programme supporting?**
 - Ask how these activities are structured – feasibility studies, any market plan, skill building, etc.
 - Ask who the target is – the individual or the household.
 - Ask how long these activities are ongoing.
 - Ask if there are any challenges.
4. **What are your views on food security for PLWHA on treatment?**
 - Ask what link is there between food and treatment adherence.
 - Ask what can be done to increase food security for PLWHA.

APPENDIX B

INTERVIEW GUIDE – FOCUS GROUPS

- 1. For how long are you on treatment and what challenges do you experience?**
 - Ask specific challenges related to food and the medication.
- 2. What type of information is/was provided to you relating to nutrition and ARV treatment?**
 - Ask how helpful the information is and who provided the information.
- 3. What type of support do you receive from organizations or government?**
 - Ask specifically for food/nutrition support.
 - Ask how often they receive the support and for how long.
 - Ask if their households are included in the support provided.
 - Ask who provides the support mentioned.
- 4. What type of income-generating activities are you involved in?**
 - Ask how they benefit from these activities.
 - Ask if their households are involved in these activities.
- 5. What are your perceptions/views about these income-generating activities.**
- 6. What do you think can be done to improve these activities?**
- 7. What do you think about food security for PLWHA on treatment?**

APPENDIX C

INFORMATION SHEET



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PARTICIPANT INFORMATION SHEET FOR MPH RESEARCH

1. Information about the interviewer

Shirley Magazi is a student at the School of Public Health (SOPH), University of Western Cape in South Africa. As part of my Masters Degree in Public Health, I am required to conduct a research in order to obtain the degree. The research will include key informant interviews and focus group discussion with organizations involved in food security programmes for PLWHA on ARV treatment.

2. Purpose and contents of the interview

The purpose of the study is to inform improvements of food security interventions in place for PLWHA in the Khomas Region. The study therefore aims to investigate the food security programme interventions in place to improve ARV adherence for PLWHA on treatment at household level in the Khomas region. The study will therefore answer two objectives: identify food-security interventions geared to improve ARV adherence for PLWHA on treatment at household level, and explore the perceptions and attitudes of PLWHA on treatment regarding programme interventions for food security to enhance ARV adherence.

3. The process of the research

Key informants will be selected from organizations involved in food security interventions for PLWHA on treatment. Using a semi-structured interview guide, key informants will be posed questions to provide information regarding food security interventions embarked upon by the respective organizations. Key informants will then be requested to identify one of the support groups belong to the organization to participate in the focus group discussions. Using a semi-interview guide, the researcher will facilitate a process of discussion amongst support group members on their views and perceptions of the food security intervention in place for them.

4. Benefits of the study

The findings of the will greatly benefit existing food security programmes, in the sense that information will be gathered and analysed to produce constructive recommendations to strengthen existing programmes.

5. Confidentiality

Confidentiality will be maintained at all times. Participants will not be requested to identify themselves and information will be kept anonymous.

6. Things that may affect your willingness to participate

If there is anything that you would prefer not to discuss, please feel free to say so. I will not be offended and there will be no negative consequences if you would prefer not to answer the question. I would appreciate your guidance should I ask anything which you see as intrusive.

7. Informed Consent

I am expected to receive your written consent before I can resume with this research. Attached with this information sheet is a consent form which if you agree to participate in this research, you are to sign it.

8. Enquiries

For further enquiries regarding this research please contact my supervisor at:

Dr. Mickey Chopra
Tel: +27 834 124 527
E-mail: mickey.chopra@mrc.co.za

Or you may contact me directly at the following:

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APPENDIX D

INFORMED CONSENT



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**AN ASSESSMENT OF FOOD SECURITY INTERVENTIONS
FOR PEOPLE LIVING WITH HIV/AIDS
ON ANTIRETROVIRAL TREATMENT AT HOUSEHOLD LEVEL
IN THE KHOMAS REGION, NAMIBIA.**

INFORMED CONSENT FORM

I fully understand that the purpose of this study is to investigate food-security interventions in place to address food security for people living with HIV/AIDS (PLWHA) on treatment at household level and describe the perceptions and attitudes of PLWHA benefiting from such programmes. This is a qualitative study that will select the participants purposively as part of the researcher's fulfilment of the Masters Degree in Public Health with the University of Western Cape. The findings of the study will be used solely for academic purposes and to inform programming of food security programmes in the Khomas Region.

I understand that confidentiality will be maintained through the use of pseudo names and that my participation in this study will not affect me negatively. I am further aware that I may withdraw at any time from the study without any adverse consequences.

I.....agree to participate in the study to assess food-security interventions in place for people living with HIV/AIDS on treatment at household level in the Khomas Region, Namibia.

Signed at.....on this.....day of.....2007.

Signature:..... Witness:.....

