Nutrition in the era of Highly Active Anti-Retroviral Therapy:

A case of people living with HIV/AIDS in Tsholotsho, Zimbabwe

By

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ABSTRACT

For the past two decades HIV/AIDS has received global attention in developing and developed countries. The findings of HIV/AIDS indicate that the pandemic remains the greatest threat to a better life globally. In Zimbabwe HIV/AIDS has accounted for the highest recorded and unrecorded cases of death. Studies globally have indicated that a nutrient rich diet is required for HAART to produce optimum results. The aim of the study is to explore the experiences of people living with HIV/AIDS in Tsholotsho, Zimbabwe with regards to processing and accessing nutrition in people living with HIV/AIDS in Tsholotsho, Zimbabwe. For this study data was obtained using face to face in-depth interviews, focus group discussions and key informants. The in-depth interviews were held with five men and five women living with HIV/AIDS from Tsholotsho. The focus group discussions were also held with ten people, men and women living with HIV/AIDS in Tsholotsho. The key informants also were interviewed in Tsholotsho. The findings of the study indicate that the Zimbabwean economic situation coupled with lack of adequate rainfall has posed challenges to HIV/AIDS patients' ability to maintain a healthy diet. In addition, the HIV/AIDS patients complained about the removal of NGOs who used to supplement their diet. The participants indicated lack of employment opportunities, restrictions on food imports were some of the factors leading them to experiencing challenges in their everyday lives particularly in terms of access to relevant nutrition. The study suggests that people living with HIV/AIDS are knowledgeable with the high nutritional value when compared to western diet which consists of refined diet and were relying on gathering wild fruits and vegetables. The study recommends that the government to consider renewing the social welfare department that used to provide safety nets for the people living with HIV/AIDS who cannot access the required diet. This will be an efficient mechanism for improving the standards of living and redistributing wealth to create a more equitable society.

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DECLARATION

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DECLARATION - PLAGIARISM

I, Nobuhle Moyo declare that:

1. The research reported in this thesis, except where otherwise indicated, and is my original research.

2. This thesis has not been submitted for any degree or examination at any other university.

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ACRONYMS AND ABBREVIATIONS

AFTLRP:	Accelerated Fast track land redistribution Programme
AIDS:	Acquired Immune Deficiency Syndrome
ARV:	Antiretroviral Therapy
ESAP:	Economic Structural Adjustment Programme
GDP:	Gross Domestic Product
HAART:	Highly Active Antiretroviral Therapy
HIV:	Human Immune-deficiency Virus
MDG:	Millennium Development Goals
NAC:	National AIDS Council
NGO:	Non-Governmental Organisation
STI:	Sexually Transmitted Infection
TB:	Tuberculosis
UN:	United Nations
UNAIDS:	Joint Aids Organization
USD:	United States Dollar
WHO:	World Health Organisation
ZANU PF:	Zimbabwe African Union Patriotic Front
ZIPRA:	Zimbabwe People's Revolutionary Army
ZAR:	South African Rand

CONTENTS

ABSTRACT ... i
ACKNOWLEDGEMENT ... ii
DECLARATION ... iii
ACRONYMS AND ABBREVIATIONS ... iv
CONTENTS ... v
LIST OF TABLES AND FIGURES ... vii
CHAPTER 1: INTRODUCTION ... 1
1.1 Background of the study ... 1
1.2 Nutrition and HIV/AIDS ... 4
1.3 Aims of the Study ... 5
1.4 Theoretical Framework ... 7
1.5 Organization of dissertation ... 10
CHAPTER 2: LITERATURE ... 11
2.1 Introduction ... 11
2.2 Food availability ... 11
2.3 Poverty ... 13
2.4 Safety nets ... 17
2.5 Globalization ... 20
2.6 Gender ... 23
2.7 Cultural preferences ... 25
2.8 Household demographics ... 26
2.9 Food diversity ... 27
2.10 Environment and food ... 28
2.11 Conclusion ... 29
CHAPTER 3: METHODOLOGY ... 30
3.1 Introduction ... 30
3.2 Study Area ... 30
3.3 Research Approach ... 32
3.3.1 In-depth interviews ... 33
3.3.2 Focus Group Discussion (FGDs) ... 34

3.3.3 Case study 35
3.3.4 The Process of Data Collection 36
3.4 Data analysis 36
3.5 Ethical considerations 37
3.6 Limitations of the study 38
3.7 Summary 39
CHAPTER 4: RESULTS 40
4.1 Introduction 40
4.2 Demographic profile of the participants 40
4.3 Effect of the economic crisis 42
4.4 Dissolution of Safety Nets 45
4.5 Lack of food leads to non-adherence 47
4.6 Indigenous versus western diets 56
4.7 Summary 58
CHAPTER 5: DISCUSSION, CONCLUSION AND RECOMMENDATIONS 60
5. 1 Introduction 60
5.2 Recommendations 63
REFERENCES 74
APPENDIX I 77
APPENDIX II 80
APPENDIX III 81

LIST OF TABLES AND FIGURES

TABLES

Table 4.1: Sample Characteristics of Participants of In-depth Interviews..............................41

Table 4.2: Sample Characteristics of Participants of Focus Groups.......................................42

FIGURES

Figure 1.1: The Pen 3 model..9

Figure 1 2: Social cognitive theory...9

CHAPTER 1: INTRODUCTION

1.1 Background of the study

The HIV/AIDS pandemic remains the greatest threat to a better life globally (Piot et al. 2001). A lot of organisations such as multinational institutions, civil society, the private sector and governments have committed many resources for this cause. In the worst affected developing countries, significant proportions of gross domestic product (GDP) go towards fighting the AIDS pandemic (Ávila et al., 2013). While incidence rates of new infections have significantly declined, prevalence rates of people living with HIV/AIDS have also declined steadily due to improvements in anti-retroviral treatment (Ávila et al.2013). In the poor regions of the world however, there is a high number of new infections. Sub-Saharan Africa remains the worst affected region in the world with 70% of the global burden of HIV/AIDS and about 1.2 million new infections in 2012 (Ávila et al., 2013).

Advances in antiretroviral treatment have enabled countries to minimise the negative effects of HIV/AIDS on societies (Deeks et al. 2013). The highly active antiretroviral therapy (HAART) regimen has dramatically improved the clinical outcomes and life expectancy of the infected patients (Deeks et al.2013). Such benefits are however, highly dependent on patients having sufficient nutritious food intake. In other instances, HAART may not compatible with every individual and may increase the risk of cardiovascular disorders such as kidney, heart, liver and neurological diseases (Torres et al.2013). Furthermore, despite advanced clinical benefits, the present HAART regimen cannot eradicate the virus which is stored in reservoirs from which it re-emerges once treatment is interrupted (Torres et al. 2013). Research on HIV/AIDS has mainly focused more on quantitative aspects of the pandemic in terms of incidence and prevalence rates, trends, and regional, country and intra-country patterns. There is a paucity of literature on the everyday life experiences of people living with HIV/AIDS in Zimbabwe particularly in the area of access to nutrition.

HAART was firstly introduced during the period of late 1996 and early 1997 and had the effect of significantly reducing HIV/AIDS-related mortality rates (Hogg et al. 1998; Detels et al. 1998). Africa was known as the epicentre of AIDS in the early 1990s (WHO, 2005). In 1993, in sub- Saharan region 9 million people were estimated to be infected out of 14 million people globally. In December 1999, AIDS was declared a national disaster in Zimbabwe and

a new conducting body called the National AIDS Council (NAC) was created with the sole purpose of managing the pandemic (WHO, 2003).

According to Choto (2013), in Zimbabwe, HAART treatment was first available in Harare, and then later to the other urban areas, and finally in rural areas such as Tsholotsho. The WHO initiative was adopted by Zimbabwe to ensure that HAART was universally accessible to all infected persons in need of treatment (WHO, 2005). The Zimbabwe government partnered with international organisations to fight the spread of HIV/AIDS (Choto, 2013). The government responded to the AIDS crisis by declaring it as a state of emergency in 2002, and the allowing the importation of cheaper generic drugs as well as locally manufacturing drugs under the World Trade Organisation rules. However, due to the unconducive economic environment prevailing in the country in the beginning of 1999 Varichem, (the local generic drug manufacturer) experienced challenges of foreign currency availability to import raw materials to make antiretroviral (ARVs) (Choto, 2013). This adversely affected patients especially those living in rural areas, increasing the burden of accessing both treatment and nutritious food.

According to WHO (2003), a nutrient rich diet is required for HAART to produce optimum results. Access to the required nutrition in Zimbabwe became a problem after the year 2000. This was partly due to droughts and flooding that have periodically affected the country in the early 1990s. Around the year 2008, the economic crisis coupled with insufficient rainfall led Zimbabwe to experience food shortages. The worst affected people were those living with HIV/AIDS as they were more prone to hunger and lack of nutrient rich food (Sadomba et al. 2015). As a result, people living with HIV/AIDS became vulnerable to opportunistic infections and the time it takes to progress from HIV to AIDS shortened (Sadomba et al. 2015). Nutritional programmes have been put in place to address the challenges that are facing people living with HIV/AIDS to curb nutritional deficiencies. In addition, non-governmental organisations (NGOs) have also joined the initiative to help alleviate the pressure faced by the AIDS pandemic.

According to McQueen et al. (2010), over 1.2 million people were living with HIV in Zimbabwe at the end of 2009. Of those living with HIV, only 55 per cent of about 600,000 people in urgent need of antiretroviral (ARV) treatments were receiving it (McQueen et al. 2010). For the decade beginning in 2000, the national health system was experiencing serious capacity problems due to lack of capital injections, shortages of staff as a result of emigration

of skilled personnel, medicines, basic health requirements for staff and patients (McQueen et al. 2010). HIV/AIDS accounted for the highest recorded and unrecorded cases of death in Zimbabwe.

According to Sadomba et al. (2015) the cholera outbreak of 2008 exposed the problems in the health sector as both private and public health institutions failed to contain the situation. There was a huge gap in funding of the health sector in general and HIV/AIDS programmes in particular. Furthermore, the Zimbabwean application for US$ 20 million for financing HIV/TB programmes was declined. This worsened the state of the health system, further constraining provision of medication and nutrition supplements to people living with HIV (McQueen et al. 2010).

Given this context in Zimbabwe, the section below discusses the factors affecting nutrition of people living with HIV/AIDS in the era of HAART in Zimbabwe. The austerity measures introduced in the form of Economic Structural Adjustment Programmes (ESAPs) in the early 1990s contributed to making the scourge of HIV/AIDS more difficult to manage (Charles et al. 2006). This is because government revenue had markedly declined due to the decreased tax base resulting from retrenchments which were a characteristic of ESAPs. Furthermore, ESAPs required the government to reduce its public expenditure on social services such as health, privatisation of public utilities, education, and removal of trade barriers as well as the removal of subsidies on basic commodities (Charles et al.2006).

Gaidzanwa (1998) reported that ESAPs also had adverse effects on the livelihoods of the people as they have resulted in school dropouts and commoditisation of health services. Most families were no longer able to afford more than two meals per day with the majority of women eating only a single meal per day (Gaidzanwa, 1998). The situation was worsened in rural households in Zimbabwe which experienced various levels of food insecurity and vulnerability. In addition to the worsening economic conditions, low incomes, poor rainfall, harsh political environment and deteriorating environmental conditions, AIDS also impacted their livelihoods. Interventions by non-governmental organisations such as World Vision International who responded to the situation through a number of food interventions to alleviate food insecurity and poverty were very helpful but not enough (Ahmad, 2003).

Zimbabwe’s socio-economic outlook was worsened as a result of the adoption of the ESAPS and further by the adoption of the Accelerated Fast Track Land Reform Programme (AFTLRP) in 2000, which exacerbated the poverty situation and threatened household food

security (Mugumbate et al.2014). ESAPs and the land reform programme led to massive unemployment as a result of closure of companies and downsizing, international isolation, as well as economic hardships which saw the majority of the population migrating to South Africa. While the country grappled with the effects of ESAPs and land reform induced challenges, the HIV/AIDS pandemic had spread in the sub-Saharan Africa region such that the region became famous as the epicentre of the pandemic.

1.2 Nutrition and HIV/AIDS

Rosalinda et al. (1995) defines nutrition as the science of food, nutrients and other substances therein, their action, interaction and balance in relation to health and disease, and the processes by which the organism ingests, absorbs, transports, utilizes and excretes food substances. According to the UN World Food Programme, more than 925 million people globally do not have enough food to eat. In this study poor nutrition and malnutrition will be used interchangeably. The concept of malnutrition and poor nutrition cannot be divorced. The concept refers to a lack of proper nutrition; inadequate or unbalanced nutrition. According to Blössner et al. (2005) there were various factors causing malnutrition, most of them were related to poor diet and frequently experienced severe and repeated infections especially in underprivileged people in the society. Chopra et al. (2006) noted that under-nutrition was common in the children of Africa and most of them were HIV infected. Poverty, unemployment, malnutrition, food insecurity, and vulnerability to infectious diseases are a common part of Africans adults and children daily lives. Attaining good nutrition includes eating food that supply the body with all the nutrients on a daily basis. It is referred to as eating a balanced diet which includes all the required minerals in their rightful proportions of fats and oils, starchy foods, proteins, minerals, vitamins and water. The right balance of all the nutrients promotes good health and prevents malnutrition. In many societies people living with HIV live in resource limited settings and experience malnutrition frequently. Poor nutrition can be a result of inadequate food intake, and loss of nutrients from the body weakens the immune system which in turn decreases the ability of the body to fight infections. The weakened immune system results in repeated infections, which later causes poor nutrition which causes a vicious cycle of malnutrition. Studies have shown that there are risks associated with lack of good nutrition of people living with HIV/AIDS. For example, Gillespie & Kadayila (2005) found that malnutrition exacerbates the effects of HIV on the individual by increasing the fatigue and disease progression, causing high mobility and early

death. In the social context malnutrition perpetuates the negative effects of HIV/AIDS on food and nutrition security. Quandt et al. (2001) defined nutrition security as secure access to food coupled with a sanitary environment, adequate health services and adequate care to ensure a healthy life for all household members. The interaction between HIV/AIDS and food and nutrition security has been described as a vicious cycle in which food insecurity increases vulnerability to HIV exposure and infection and HIV/AIDS in turn increases vulnerability to food insecurity (Gunter, 2003). For many developing countries the effects of HIV/ AIDS on food and nutrition security posed a great challenge to achieving the Millennium Development Goals (MDGs) (Alban & Anderson, 2005). For the purpose of this research project, this study will focus on both men and women living with HIV/AIDS. People living with HIV/AIDS are faced with a number of factors that impact on their ability to acquire a nutritious diet and these range from lack of safety nets, poverty, cultural and ethnic factors.

Molla et al. (2013) observe that adequate nutrition for people living HIV/AIDS is necessary to maintain and improve their overall health and nutritional status. The study by Molla et al. (2013), reveal that HAART and good nutrition were important elements of preventing opportunistic infections such as tuberculosis and pneumonia, which are regarded as the hallmarks of AIDS patients. Additionally, AIDS has burdened the world's poorest regions, namely sub-Saharan Africa. In 2010, sub-Saharan Africa infection rates accounted for about 66% of all HIV infections worldwide (Molla et al. 2013). HIV/AIDS has deepened poverty and exacerbated food insecurity in already affected regions. This obviously poses many challenges for people living with HIV to attain a nutritious diet. Denise et al. (2013) suggest that an adequate diet is essential for adherence to HAART, and inadequate nutrient uptake promotes opportunistic infections.

1.3 Aims of the Study

The aim of this study is to explore the factors influencing the ability of men and women living with HIV/AIDS to acquire a nutritional diet.

The specific objectives of the study are:

- to investigate the challenges Tsholotsho residents on HAART face in obtaining adequate nutrition
- to explore how the economic crisis in Zimbabwe affects Tsholotsho residents living with HIV/AIDS' access to nutrition;

- to investigate attitudes to indigenous foods.

This study will address the following key questions:

- What are some of the challenges Tsholotsho residents on HAART treatment face in obtaining an adequate nutrition?
- How has the economic crisis of Zimbabwe affected access to nutrition for Tsholotsho residents on HAART?
- How do Tsholotsho residents living with HIV/AIDS perceive indigenous and westernised diets?

The study used qualitative data from in-depth interviews with people living with HIV/AIDS in rural Tsholotsho, Zimbabwe. The sample consisted of five women and five men living with HIV/AIDS as well as three health practitioners working in Tsholotsho district. The findings drew from the one-on-one interviews for in-depth understanding into the experiences of people living with HIV/AIDS.

One of the reasons for conducting the study in Tsholotsho is the high prevalence of HIV/AIDS infections. Tsholotsho has high infection rates because of migration as the area is located near the border town of Victoria Falls. In Zimbabwe, border towns have high HIV infection rates. According to Choto (2013), high infection rates are due to spousal separation and informal activities prominent in areas located around entry and exit points of the country's borders. Tsholotsho falls under the Matabeleland North province which has the highest rates of HIV/AIDS infection rates in Zimbabwe. According to the McQueen et al. (2010) HIV/AIDS prevalence was decreasing in other provinces except for Matabeleland South, Bulawayo and Matabeleland North province which had infection rates of 21 percent, 19 percent and 18 percent respectively. Additionally, high migration from the Matabeleland provinces to the neighboring countries such as South Africa and Botswana, has led to greater HIV infection rates. Almost, all the men have migrated to these neighbouring countries leaving women and children behind. Also, the migrant labours have disposable income that could be used to engage in transactional sex.

Tsholotsho is a rural district with no industry where the economically active age group can be gainfully employed. This has forced many of the working class to move to nearby towns such as Bulawayo, which is situated in Zimbabwe. The majority of the young population engages

in high risk behaviour such as sex work and criminal activities due to lack of employment opportunities (Sadomba et al. 2015). In addition, the greater part of the population relies on remittances for their survival and the little that will be harvested from the fields. The situation in Matabeleland province as a whole is worse because the province generally is not suitable for crop production but for stock rearing. Furthermore, Zimbabwe has been facing international donor inconsistencies. The harsh political situation in Zimbabwe has hindered participation of the donor community. In mid-2000s the government became increasingly hostile towards foreign non-governmental organisations (NGOs), to the extent where they threatened to pass laws would allow the government to interfere with how NGOs operate.

1.4 Theoretical Framework

This study draws on the Pen-3 model and the social cognitive theory. The Pen-3 model is relevant because it analyses the psychological status of individuals living within a certain community. This will help analyse the generally accepted behaviour of people living in a certain community. Culture plays a significant role in ascertaining the level of health of the individual, the family, and the community. This is especially relevant in the context of Africa, where the values of the extended family and community significantly influence the behaviour of the individual. The PEN-3 model was developed by Airhihenbuwa (1992) and it is the main theoretical frame work that will guide the study. It utilizes a multidimensional approach which focuses on various aspects of cultural identity, cultural empowerment, and relationships and expectations.

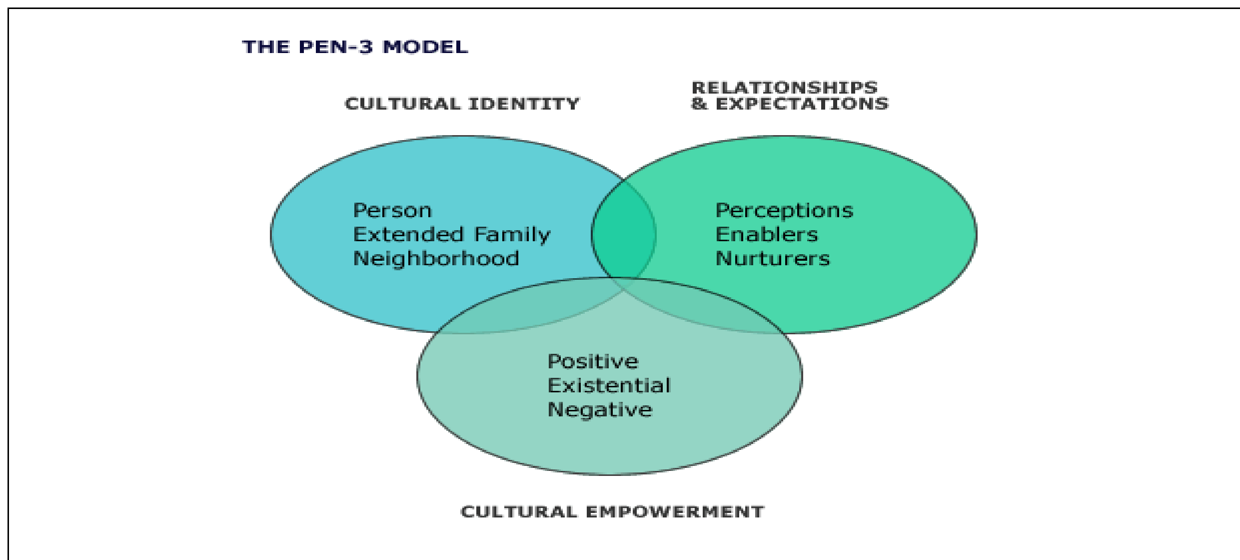
The Pen-3 model was originally designed and implemented to examine child survival programs in Africa. It has since been applied across several minority populations in the United States and has been used to study breast cancer, dietary behaviours, and health behaviours (Sharma & Romas, 2011). A distinct feature of the Pen-3 model is that it not only assesses perceptions and behaviours at the individual level, but also emphasizes the role played by the community in shaping the values of an individual. This theoretical framework assesses the overall perceptions of the majority of the sample population in terms of their food consumption patterns.

The study will also draw on the social cognitive theory. The social cognitive theory emanated from the research area of social learning theory proposed by (Miller & Dollard, 1941). This theory indicated that people do not learn new behaviours purely by trying them and either

succeeding or failing, but the survival of humanity is dependent upon the replication of the actions of others. Depending on whether people are rewarded or punished for their behaviour and the outcome of the behaviour, that behaviour may be modelled (Miller & Dollard, 1941). Furthermore, the media provides models for a number people living in different environmental settings. Most of the people are influenced by what the media is advocating to be good. They follow what the celebrities are eating, wearing and saying and take that as their role model, which becomes their lifestyle.

The use of both the Pen 3 model and the social cognitive theory in this study is very essential in shedding more light on the role played by community in the current shift of the diets followed by the Tsholotsho residents. The combined use of these theories helps in understanding the psychological status of people living in Tsholotsho community and how people replicate the actions of others in their daily lives. The theories will also be useful in outlining some of the challenges faced by Tsholotsho residents on HAART treatment acquiring adequate nutrition. This will be achieved through analysing the role played by culture in ascertaining the level of health of the individual, the family, and the community. Furthermore, these theories will help shed more light on how the Zimbabwean economic crisis has affected access to nutrition for Tsholotsho residents on HAART treatment. The use of these theories will help unearth some underlying issues that are embedded on various aspects of cultural identity, cultural empowerment, and relationships and expectations. Thereby outlining how families fail to be self-sustainable viable unit. Finally the proposed theories will help to outline the perceptions of diet held by Tsholotsho residents living with HIV/AIDS.

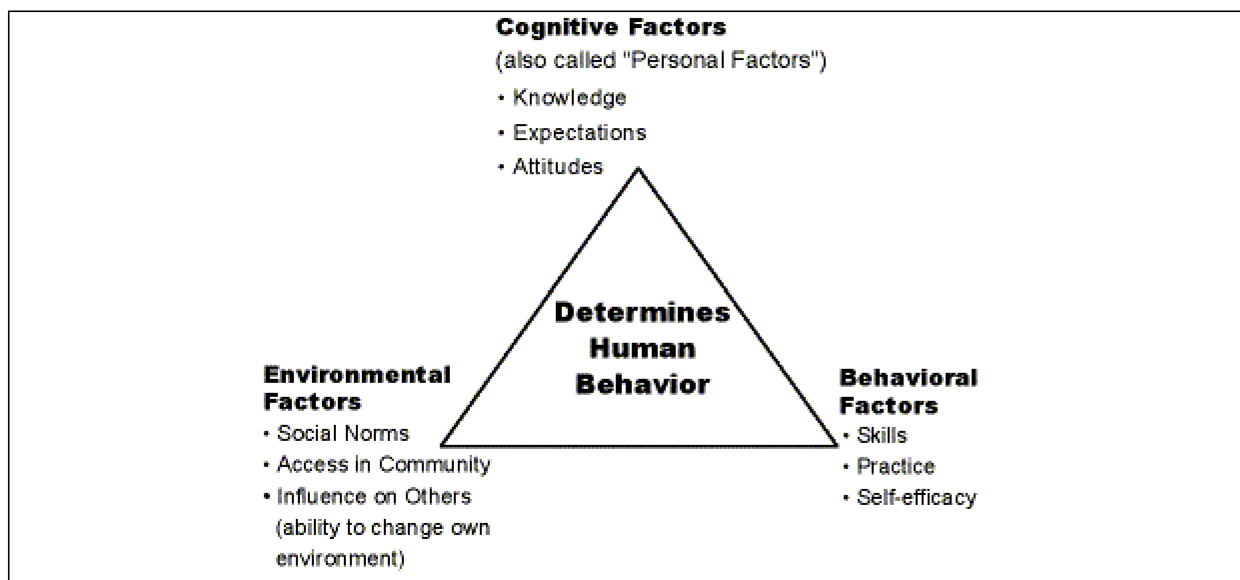
Figure 1.1: The Pen 3 model



Source: Iwelunmor et al., (2013)

Social cognitive theory, developed by Bandura, places a person's behaviour within the social context within which they live. According to Bandura (1977), person's knowledge is a product of social interactions which also involves vicarious learning. The typological presentation of social cognitive theory is shown in Figure 2 below.

Figure 1. 2: Social cognitive theory



Source: Bandura (1977)

1.5 Organization of dissertation

The dissertation is divided into five different chapters. Chapter one presents a background to the study, the aims and objectives as well as the theoretical framework. It discusses the levels of HIV/AIDS and the nutritional challenges in the Zimbabwean context. Chapter two reviews relevant national and international literature, with the aim of discovering gaps between developed and developing countries and how people living with HIV/AIDS experience different challenges. Further it focuses on the different factors that affect the ability of people living in resource limited areas to access to nutritious food which enables them to benefit from the HAART treatment. Chapter three provides the research methodology, study location, instruments used for data collection, and the data analysis. It provides ethical considerations as well as the limitations of the study. Chapter four presents the main findings of the study. It draws on interviews conducted with a small sample. Finally, the dissertation concludes by discussion of the main findings and looks at the implications of the findings of the study, and also makes recommendations.

CHAPTER 2: LITERATURE

2.1 Introduction

This chapter's main focal point is on the previous literature that has been written concerning the topic of nutrition in the era of Highly Active Antiretroviral Therapy (HAART) in resource limited settings such as Tsholotsho. The literature mainly focuses on the following variables food availability, poverty, lack of safety nets, types of food, ethnic and cultural food preferences and gender. This chapter reviews previous studies on the usage of the HAART regimen and the nutritional challenges that that are faced by people living with HIV/AIDS in resource limited areas.

2.2 Food availability

Mahadevan & Fisher (2010) conducted studies in America which was focused on homeless and housed women living with HIV/AIDS. The study revealed that people living with HIV/AIDS had challenges of acquiring healthy food options. Mahadevan & Fisher (2010) reported that healthier foods such as fish, fresh fruits, lean meats and vegetables were normally available in local stores. Furthermore, their study indicated that food affordability has been documented as the barrier to improving people's diet. The study indicated that the greatest challenge by the African American homeless women was the lack of access to large grocery stores and supermarkets in their immediate neighborhood.

Furthermore, Mahadevan & Fisher (2010) indicated that the small convenient shops located close to their place of residence normally held limited inventories of perishable food such as fruits and vegetables. The study revealed that most business people had limited stock of perishable foods; which had a shorter shelf life.

Frayne (2005) conducted studies in Namibia and observed that urban dwellers consumed a variety of different food types such as high quality food which included animal protein daily, fish, chicken, milk products and with regularity. These products were readily available from urban stores compared to the ones in rural areas. Similar findings were documented by Rodlach (2011) in Zimbabwe, where urban dwellers residing in Bulawayo were interviewed using qualitative methods. Urban dwellers had the following readily available; fruits from indigenous trees, herbs, nuts, tubers and leafy vegetables collected. If these were available in the markets they are generally expensive and unaffordable. The study indicated that there

were traditional fruits which were well known for their health properties. However, due to a series of droughts in Zimbabwe their supply had been adversely affected.

Further studies conducted in Ethiopia by Tiyou et al. (2012) found that in resource constrained settings many people living with HIV/AIDS lacked sufficient quantities of nutritional foods. They argued that maintaining adequate food consumption and nutritional levels and meeting the special nutritional needs to cope up with the disease and HAART is critical for people living with HIV/AIDS to benefit fully from the treatment (Tiyou et al. 2012). The study concluded that poverty was the main reason why people living with HIV/AIDS were not able to acquire a nutritional diet.

Research by Bleiker & Six (2007) in New Zealand and Australia observed that wild foods were still used in industrialized countries, though both traditional ecological knowledge and use but was declining. More than 60 species were still in common use, largely because of the traditions of Maori groups. Amongst these species were mutton-bird (sooty shearwater), seagull, possum, rabbit, deer, wild pig, goat, salmon, trout, eel, watercress, sea lettuce, gorse and many berries. In the Wallis Lake catchment area of Australia, 88 species were found to be general use. In the swamps of Louisiana, large numbers of people still hunt and fish regularly for their own food (Bleiker & Six, 2007). Mahadevan & Fisher (2010) only focused on the availability of nutritious food for homeless women living in America. The socio-economic factors are different for developed countries and developing countries. This study will focus on both women and men living with HIV/AIDS and their ability to acquire a nutritional diet.

Similar findings were obtained by De Merode et al. (2003) on the conventional usage of wild food by poorer households. The study indicated that there was no, simple correlation between wealth and resource use. In some countries, household consumption of wild foods increased with wealth with the exception of bush meat in Africa. Popkin (1998) however notes that the poorest households in Democratic Republic of Congo were unable to capitalize on the most valuable food products and concluded that household use of wild foods depended less on natural abundance than on socio-economic factors. Having discussed the factors that determine food availability for people living with HIV/AIDS in resource limited areas; the following section focuses the impact of poverty on the ability of people living with HIV/AIDS to acquire nutritional food.

2.3 Poverty

Mahadevan & Fisher (2010) conducted a study on African American female substance abusers with HIV. They expressed concerns over their lack of personal resources which hindered their ability to sustain healthier food habits. The housed women raised the issue of insufficient disability funds which did not cover the high costs of fresh food especially lean meat, fruits and vegetables. To further, elaborate on their lack of personal funds as a barrier to healthy living, people living with HIV/AIDS might be facing worse problems of nutrition than those receiving financial support even though the funds are often insufficient.

This study was consistent with the studies obtained in China by Deng et al., (2009) where many people living with HIV/AIDS in rural Anhui were poor and lacked sufficient protein in their diet. A community intervention programme was implemented for providing soya beans seeds, training courses for planting soya beans, and nutrition as well as preparation skills for soy for people living with HIV/AIDS in two villages in North Anhui. Their findings concluded that after eating soy food, 93% felt better, 86% reported less sickness and 61.3% had higher total blood protein and most people liked the project and hoped to continue the project in future.

According to the WHO (2005), poor dietary intake usually occurs as a result of poverty and lack of access to food. Many people living with HIV/AIDS are dependent on agriculture as the main source of sustenance and are at greater risk of food shortages because of physical health constraints (Malcovati et al., 2005). Nutrition status plays a critical part in determining an individual's ability to further develop their livelihoods towards activities, such as farming, that may help to mitigate the impact of AIDS and prevent the further spread of HIV (Haddad & Gillespie, 2001).

Haddad & Gillespie (2001) conducted studies in sub-Saharan Africa on the impact of educational backgrounds on people living with HIV/AIDS. The study indicated that people with poor educational backgrounds may fail to interpret the nutritional information written on the food packages, whilst Piot et al. (2007) observe that the relationship between HIV/AIDS and socio-economic status is complex and varies from country to country due to the differences in traditions and culture.

Similar findings were documented by Fenton & Imrie (2005) in America where he found that despite the different socio-economic activities and educational background, many people living with HIV lacked basic food preparation skills. They argue that such people might not

be able to read the information on the food labels and as a result are unaware of food safety. Fenton & Lowndes (2004) found that in the United States of America poverty was usually associated with lack of education and illiteracy therefore making the messages regarding risk and prevention inaccessible. Poverty also restricts the choices of people leaving them with few options but to undertake high risk behaviors. The fact that most people living with HIV/AIDS are poor have led to the generalization that it is a disease of the poor, however evidence gathered shows that also wealthy countries are also susceptible to infections.

Additionally, Tiyo et al. (2012) indicated that people living with HIV with an educational status lesser than elementary level are more likely to be food insecure. The study found that educated people living with HIV had opportunities to engage in better income generating activities and therefore they have the means of fulfilling their dietary needs. Deng et al., (2009) indicated that education is one of the predictors of food insecurity. The study revealed that people living with HIV with less education than the elementary level are more vulnerable to food insecurity than those with education.

Kalichman et al. (2006) noted that low education attainment was one of the contributing factors to HIV/AIDS risk. In support of this, Magadi (2013) argues that higher educational attainment was associated with a reduced risk of HIV among the urban non-poor and the association was reversed among the urban poor.

Thapa et al. (2015) conducted a study in Nepal in public ART sites at Tribhuvan University Teaching Hospital (TUTH) and Sukraraj Tropical and Infectious Disease Control Hospital (STIDH). These were selected out of four public ART sites in Kathmandu Valley, Nepal, that provided antiretroviral therapy. They noted that among the various demographic variables, age, gender, ethnicity, religion and occupation were found to have no significant association with nutritional status of the people living with HIV. The study found that education status was significantly associated with the nutritional status of people living with HIV/AIDS. The illiterate people living with HIV were almost 2.5 times more likely to be undernourished than those who were literate. Marital status was a significant factor for under-nutrition. The study obtained that unmarried people were 2.7 times more likely to be malnourished than those who were married. Similarly, those people with HIV living alone or at care homes were around three times more likely to be undernourished than those who resided with their families.

According to Thapa et al. (2015), household access to food was a key indicator for predicting under-nutrition. Of the 301 clients, 71 participants (23.6 percent) were found to have some food insecurity (denoted as levels 2, 3, or 4 on a scale of one to four). Households with food insecurity were more than twice as likely to be undernourished as those people living with HIV who had adequate access to food. Additionally, their living arrangements also determined their nutritional status. Residing with family members provided a protective effect against under-nutrition. Those who resided alone or in care homes were more than four times more likely to be undernourished than those living with family members (Thapa et al.2015).

Krishnan et al. (2008) who conducted their study in the United States also obtained that HIV/AIDS is neither a women's disease nor of poverty alone. They documented that men who have sex with men, individuals who inject drugs are among the most vulnerable to HIV. Este et al. (2010) suggested that increased resources and greater mobility enables the wealthier individuals to engage in high risk sexual relationships more than poorer people. The study indicated that wealthier African countries such as Botswana and South Africa in Africa have the highest rates of infection. William et al. (2002) asserts that the reasons why the highest rates of HIV/AIDS in the world were experienced in Southern Africa and other countries in Africa were unclear. The study indicated that Botswana and South Africa were the two richest countries in sub-Saharan Africa with the highest levels of gross domestic products but were experiencing the highest rates of infection. On the contrary Mozambique is the poorest country in Africa but has the lowest rates of infection.

In Africa wealthier countries had experienced rapidly growing epidemics. Studies have argued that due to inequality in wealth higher rates of infection and increasing epidemics are experienced by wealthier nations. A study was conducted across 170 regions within sixteen countries in sub-Saharan Africa to underpin the hypothesis that socio-economic inequality was related to greater risk of HIV infection (Fox, 2012). The research noted that inequality in wealth was significantly associated with increased individual risk of HIV infection. Furthermore, wealthier regions or countries with less wealth were more likely to be infected with HIV, whereas in poorer regions or countries, individuals with more wealth were more likely to be infected with HIV. These findings add to the discourse on the relationship between HIV and socio-economic status (Fox, 2012).

Magadi (2013) also obtained similar findings on the link between HIV and the socio-economic status. The study was conducted in 20 countries in sub-Saharan Africa during the period of 2003 and 2008. The study noted that the link between HIV infection and poverty was complex and previous literature was inconsistent. The study indicated that while poverty increases the vulnerability to HIV infection, empirical evidence suggests that men and women living in wealthier households were more prevalent to HIV than those living in resource limited households. The study indicated that people living in poverty had a greater chance of being infected due to their readiness to engage in riskier behaviors. On the other hand women living in constrained urban settings have been noted to engage in riskier sexual behavior than their counterparts in less deprived areas (Holmqvist, 2009; Low et al. 2008). On the other hand wealthier people led reckless lifestyles and practiced risky sexual behaviors. The study observed that wealthy people particularly men attracted multiple partners (Hargreaves et al. 2002; Awusabo- Asare and Annim, 2008; Low et al. 2008).

Magadi (2013) also noted additional factors besides poverty which were associated with HIV prevalence. These included a range of background factors such as demographic, socio-economic and cultural characteristics, such as gender, educational attainment, age, religion and gender of household head. In addition to the background factors, a set of sexual behavior risk factors are included in successive stages to establish possible pathways through which poverty was associated with HIV prevalence. These include current marital status, age at first marriage, age at first sex, premarital sex, non-use of condoms with non-spousal partner and multiple sexual partners.

Talman et al. (2013) gave a different perspective on the impact of poverty and HIV/ AIDS. They documented that the poor are not necessarily at higher risk of being infected, or exposed to HIV/AIDS but are differentially affected in terms of its sequel and the ability to deal with its economic and social consequences. The study further elaborated that most of the infected households were food insecure and relied mostly on natural resources as their safety nets. The study outlines that vulnerable households gathered wild fruits (plants), animals, water, fuel wood, traditional medicinal products, timber, and raw materials for craft making. Talman et al. (2013) in their study using evidence from South Africa and multiple sites in Malawi and Mozambique found that households affected by adult mortality were up to 3.3 times more likely to collect firewood than were unaffected households.

Turner et al. (2000) in their study found the profile of reported AIDS cases showed a representation of the underserved population in both the United States and Canada. The study observed that the sickest people with the lowest CD 4 count received HAART treatment, however race or ethnicity; insurance status; educational background competing demands on the patient's time, attention, or resources; and the means by which a person had become infected with the HIV affected their chance of receiving treatment. African American and Hispanic people were significantly less likely than Whites to be receiving HAART. In America, HAART treatment was quite costly; therefore those without health insurance were less likely to receive treatment. The study observed that the disparities in treatment were due to lesser minorities who were seeking treatments due to mistrust of health care providers and the complications in accessing health care services (Turner et al. 2000). The study argues that although health care in United States and Canada was universally recognized, these people often lacked health insurance which directly impacted on their opportunity of receiving care and successfully adhering to HAART treatment.

According to Mahadevan & Fisher (2010) females were suffering from lack of personal resources and this hindered their ability to sustain healthier food habits. Similar findings were documented by Chan et al. (2009), in their study of rural people living with HIV/AIDS in Anhui. They reported that the rural people were poor and lacked proteins in their diets.

2.4 Safety nets

Foster & Williamson (2000) conducted a multi-country panel study in Zimbabwe, Tanzania, Uganda, Democratic Republic of Congo, Zambia and Kenya drawing on qualitative data. Their study found that HIV/AIDS was having a heavy impact at the household and community level. The study indicated that the extended family was traditionally the social security system responsible for the protection of the vulnerable. Furthermore, the study revealed that in Kenya, a greater part of the population that agreed to foster children were already living in poverty, whereas wealthier relatives avoided being associated with orphans. In Uganda, studies indicated that orphaned household per capita income was 15% less than non-orphaned household income. The study found that AIDS puts pressure on extended families resources over a period of years adding on to the challenges that are faced by people living with HIV in resource limited areas. In Zimbabwe, 89% of families relied on women as the breadwinner and only 3% of orphan households had a member as a breadwinner and

employed. In Tanzania, less than a quarter of orphans received support from the one parent still surviving and fewer than 10% received support from other relatives or elsewhere.

Foster (2007) suggests that over the past ten years most states were negatively affected by the Economic Structural Adjustment Policies (ESAPS). The study indicated that formal social protection in Africa is available to a few minority individuals of the population and rarely extends to households that are facing severe economic challenges. This further amplifies the problem in that most often government institutions lack resources to reach remote areas where poverty is extreme.

Haddad & Zeller (1996) also conducted studies in Southern Africa on the experience of lack of formal safety nets. The study observed that HIV/AIDS imposed economic burdens on extended families and communities. Additionally, there is an increase in the number of households experiencing extreme poverty and destitution due to the impact of AIDS. At the same time, the numbers of wealthier households have declined, thereby weakening the capacity of community safety nets since fewer resources are available. In developing countries, extended family safety nets are regarded as their main source of help for households facing income shocks. However, due to the adversity of HIV/AIDS and its impacts on families, extended family safety nets can no longer be relied upon.

These findings were consistent with the study by Baylies (2002) in Zambia. The study found that AIDS is having an extreme effect on production by contributing to declining agricultural output and affecting the integrity of families to be self-sustained units. The study continues to argue that where traditional coping strategies have failed, community safety nets should take over. This is consistent with the argument that governments of poor indebted countries lack capacity; more focus should be directed at improving social capital.

In Uganda, Baylies (2002) found that households relied heavily on their kinsmen for entitlements. The study indicated that in Uganda, 40 percent of population received support from extended families for medical aid and funeral costs associated with death of a family member. However, this type of assistance has its pitfalls. Baylies (2002) also indicated that kinsmen safety nets could be realistically seen as safety nets with holes. This is as a result of the fact that not all individuals, households and families are supported either as a result of poor relations with kinsmen or the stigma of AIDS. Additionally, extended families have their own challenges so they can only help to a certain extent. Moreover, development and

privatization have continued to undermine traditional expectations of reciprocity and removed the importance of kin based entitlements.

Not all research shows that kinsmen safety nets are safety nets with holes, some evidence argues that extended safety nets could still be relied upon. Foster (2007) obtained different findings on the issue of the extended family nets in sub-Saharan Africa. The study found that extended family nets were still the most effective response to economic and social crises (Foster, 2007). Households experiencing income stress as a result of AIDS could foster their children to relatives who become responsible for them. However, the study was consistent with the findings of Seeley et al. (1993) that extended safety nets are better preserved in rural communities than in urban areas.

Foster (2007) also conducted a study in Tanzania which found that wealthier households facing shocks received more support compared to poor households and were more likely to receive loans and gifts as a result of an already established social capital. However, the study also observes that informal safety nets that they might fail when poverty is widespread or when problems arise abruptly when compared to formal safety nets.

Baylies (2002) noted similar findings that the strength of safety nets varied according to the resources bases of those involved. They argued that safety nets are unevenly distributed to households, and are not systematic and might discriminate among the potential beneficiaries. This translates to the fact that families that are unable to support their relatives who are living with HIV/AIDS to satisfy their nutritional diets are left to suffer the consequences.

Baylies (2002) also notes that community safety nets were another source of help for families by obtaining support from neighbours and friends. However, if safety nets represented by extended family have holes, same applies to this one. It can be argued that generally during funerals families provide support to each other financially and emotionally. Moreover, while communities comes together to support those who are ill and bereaved, it is usually the immediate family that carry the greatest burden. However, custom rarely obliges kin or neighbours to provide support beyond the period of mourning (Baylies, 2002).

Foster (2007) also documented similar findings which indicated that community nets provided short term relief and assistance for individuals. In Tanzania, the study obtained that there was a long tradition of social support groups and members assisting one another by cultivating one another’s field and through contributing money or food in times of special

needs such as during sickness and funerals. Relatives and friends provided both moral and material support to the vulnerable families on the assumption of future reciprocation. Culture reinforces these arrangements through oral tradition. The study concluded that HIV/AIDS impacted negatively on the effectiveness of community safety nets.

According to Nyamongo & Ezeh (2005), community safety nets were better established in Uganda and Tanzania, and were weaker in other countries such as South Africa. The survey obtained evidence that low-level support were provided to 17 destitute child-headed households by community members on commercial farms in Zimbabwe. Most of the families were double orphans and there were 47 children. Most of the households were living in poor conditions and eleven families which consisted of mixed gender were living in a single room.

Foster and Williamson (2000) in their panel study also found that in Tanzania, assistance from government or non-governmental organization sources was less than transfers from community members. The study also indicated that in Tanzania there was an up rise of community-based initiatives for caring for the sick and orphans in order to prevent the further spread of HIV. Often the groups best placed to strengthen family and community capacity were the small grass-roots organizations, supported by non-governmental organizations.

According to Daly & Kellehear (1997) food availability was determined by the household's ability to sustain their food production, and if demand exceeds supply, the government and food aid played a critical role. The study discovered that philanthropic and transactional exchanges within families and other social networks were the only effective strategies in resource constrained areas. Furthermore, the study indicated that some of the coping strategies that were common included borrowing money, sharing meals and obtaining direct food assistance.

According to Prüss et al. (2014) in abundant resource settings, food insecurity has been related to social isolation and inversely correlated with social support. Most people living with HIV faced additional barriers to achieving food security due to HIV related stigma.

2.5 Globalization

In India**,** Popkin et al. (2001) discovered that one of the most important social aspects of globalization of diet is that once traditional food consumption habits have been displaced by new consumption patterns the change becomes largely irreversible. Processed food is easier

to prepare and less time-intensive than traditional foods. Additionally, the skills that are required to prepare the local food that have been developed over centuries and have been passed on from generation to generation could easily be lost. The study indicated that the globalized diet is at an absorbing state, and it will virtually become impossibly for people to revert back to the old traditional diet. This process is very visible in Western countries, where the availability of convenience food is leading to a rapid loss in the ability of households to prepare the traditional recipes.

Deshingkar et al. (2003) also observe that during diet globalization, local suppliers could experience stiff competition from foreign suppliers. It is important during this stage for domestic suppliers to signal that they can adapt production to meet the procurement requirements of large food outlets. However, fresh foods are very expensive to transport and store for longer periods.

Burke et al. (2007) also conducted a study in the United States which indicated that globally there was a rapid growth of the fast food industry which has led to rapid changes in agriculture, employment practices, the economy and the population's physical shape and health. In the United States due to the rapid expansion of the fast food industry in poor urban areas, high quality food supermarkets stocking fresh foods have relocated to the spacious and affluent suburbs.

Burke et al. (2007) argues that the changes in the social and cultural factors have contributed to the growth of fast food industry in the United States. In United States fast foods are very attractive to lower income people ever since its establishment. Africans and the Latinos in United States retained a strong sense of culture through food. Unfortunately, many traditional, healthy eating practices were replaced by less nutritious habits as a result of migration, changes in social status, and availability and convenience of more harmful foods.

Furthermore, the study observes that the African American diets during slavery were sometimes very healthy. Slaves usually consumed vegetables, fresh fruits and nuts during the day, then in the evening gathered for a meal of vegetables. Even though freedom, employment and migration have altered the eating practices of most African Americans, Southern fruits and vegetables remain the staple food of many. However there has been a dramatic shift in the quality of the African American diets from 1960s to the present (Burke et al. 2007).

Clark et al. (2007) in their study observed that in 1965, African Americans were twice as likely to meet the recommended intakes of vegetables, fruits, fat and fiber. Television programmes however encourage people to accept consumption of high fatty foods. Researchers found that food messages were played during the most popular African American television shows were mostly promoted during prime time. In addition, consumers in low income households considered advertising as authoritative and helpful in products selection. Fast food companies in turn invest billions of dollars a year in research in order to find the most effective methods of fostering brand recognition in the minds of the children. Knox (2005) argues that advertising budgets of largest food companies could exceed the national expenditure on health promotion and health education by massive proportions. Pingali & Khwaja (2004) in their study in India observe that diet globalization is clearly assisted by the globalization of the media. The proliferation of global entertainment through popular television programmes or block-buster movies permits the wide-scale advertising of global products. The study notes that McDonalds, Coca-Cola and Pepsi have been able to broaden their appeal by linking their products either to specific films or personalities. Additionally, sports events that have global coverage were often sponsored by these big name food brands too. This has huge appeal particularly for the young market. Moreover, the internet has also broadened the advertising possibilities for these larger food companies.

Burke et al. (2007) argues that market forces also played a greater role in most cases in the availability of healthy foods. Small local grocery stores in low income urban areas have higher operational costs and therefore transfer the costs to consumers. These shops also offer little variety due to limited shelf space, customer preferences and are usually unable to buy in bulk. In most cases the small shops usually sell processed, prepackaged foods as they cannot afford to stock fresh fruits and vegetables. Small shops on the other hand charge more for healthier food. People living in these communities are usually low income families and they rely on these establishments as sources of fast, convenient food.

Frayne (2005) argue that global changes in food consumption patterns had impacted badly on the healthy eating habits especially in the developing countries. Consumption of the old traditional menus is no longer desired by many people who have been made to believe that fast foods are the best food to consume regardless of the nutritional contents. People living with HIV/AIDS in resource limited areas might find themselves surrounded with limited food choices as most people are following the westernized diet. In addition, Pingali & Khwaja (2004) notes that an important social aspect of the globalization of the diet is that at the

moment the traditional food consumption habits have been displaced by the new consumption patterns and the change becomes irreversible.

Popkin et al. (2001) comments on the issue of unhealthy eating habits that are being followed globally and observes a high proportion of processed food. The study noted that an unhealthy diet also has social costs in terms of aggregate public health indicators that are not considered by individual consumers. The study indicated that the worsening of the health indicators would bring about a larger health care expenditure. In addition, they could have severe negative economic implications for instance in terms of a lower productivity of the workforce, and in the worst-case scenario this could jeopardize the very potential for growth of the economy.

Additionally Bray & Popkin (1998) suggests that the nutrition transition associated with industrialization and the modernization of diets posed additional challenges to public health worldwide. The study indicated that the replacement of wild foods by store-bought products is linked to reduced dietary diversity, rising rates of chronic lifestyle-related conditions such as obesity and type II diabetes, poor intake of micronutrients and malnutrition (Batal & Hunter, 2007). Rathore et al. (2009) asserts that traditional species have become undervalued and underused as exotic ones become available, as observed in India and in the Amazon (Byron 2003). However Vinceti et al. (2008) note the importance of wild foods to nutritional security was not necessarily replaced by store-bought foods providing the same amount of calories. The study concluded that the current global trends indicate that more people will depend solely on store-bought, cultivated foods thereby marginalizing wild foods.

2.6 Gender

According to Quinn & Overbaugh (2005) more than 20 years into the AIDS pandemic, women are accounting for more than half of the 40 million people living with the virus. The study reported that there were so many factors that were attributable to this fact including poverty, cultural and sex norms, lack of education, gender disparities and vaginal microbial ecology and a higher prevalence of sexually transmitted diseases.

Copeland (2011) conducted studies in Kenya which found that most women relied on the informal job market due to migration, often engaging in selling food and performing domestic work. Given this context, women have little earning power and it can be argued that some depend on men for the financial support. Furthermore, the study indicated that

Kenya, like any other African nations, experienced high rates of gender inequalities, poverty and unemployment which had negative impacts on women.

Alesina & Dollar, (2000) also indicated that in the European region economic hardships increased the chances of women contracting HIV/AIDS. Furthermore, financial or material dependence on men limited the ability of women to decide the circumstances and whom they had sex with. Regular or occasional sex provides income required for sustenance. A considerable number of poor women considered transactional sex as one of the few ways of providing for their families.

Studies conducted in Eastern European and Central Asian societies also displayed gender norms where men are expected to ignore or even seek risks. Contrary, women lacked the power to choose their sexual partners and their bodies are often regarded as potential transactional goods (WHO, 2003).Women have less freedom to exercise control over their bodies as they might not have equal opportunities of employment. Women who depend on men to provide food and shelter might fail to acquire the recommended nutritional meals for them to benefit from the HAART treatment in the absence of their husbands (WHO, 2003).

According to Rodrigo and Rajapakse (2010) women living in resource limited settings were more vulnerable to HIV due to the possible interaction between poverty and non-biological factors such as gender inequality or violence. Similar findings were obtained in urban poor South Africa where women's vulnerability to the risk of HIV was increased due to transactional sex associated with gender violence and socio-economic disadvantage (Dunkle et al. 2004; Hunter, 2007).

Talman et al. (2013) established that girls and women worldwide have differential access to credit, education, health services, information and employment. Additionally, women carry a heavier burden of safety, health problems and security issues. They are more exposed to the direct health effects caused by living in inadequate access to water, poverty and health care. Their study further elaborated that the economic dependencies of women on men caused them to undertake risky behavior. In sub-Saharan Africa they documented that about 70 percent of women constituted agricultural workforce so therefore death and illness of females were regarded as a threat to livelihoods. Frayne (2005) discussed how the values of the society such as in Namibia impacted on women. The study discussed the inheritance system and how it directly disadvantaged women and widows by forfeiting their automatic rights to

land. Female headed households have limited access of arable land than male headed households.

Anema et al. (2009) observed that food insecure women were more likely to engage in unprotected sex and had less power in relationships than men. Their study found that female headed households were more likely than male heads to be HIV infected, and households suffering female illness and mortality are more likely to suffer food insecurity. Impoverished women were more likely to report earlier ages of sexual debut and more concurrent partnerships than impoverished men.

2.7 Cultural preferences

According to Mahadevan & Fisher (2010) the educational materials and messages presented at the clinics and hospitals were too general and were culturally irrelevant. African women raised concerns because of the nutritional material was ignoring the African American culture. The African American women living with HIV lacked information to consistently make healthy food choices. The women expressed interests in learning about various topics related to nutrition, food, health and HIV substance abuse. These women consistently dismissed the nutritional pamphlets and considered the staff as ignorant of their African American culture and their lifestyles. They expressed concerns that nutritional advice should be culturally relevant in order to be useful.

Rodlach (2011) in a study conducted in Zimbabwe (Bulawayo) in urban areas obtained more profound insights into the issue of cultural and ethnical preferences. The findings indicated that the traditional plants and fruits were not only desired for nutrition but were also recommended for their healing properties. Furthermore dishes such as the light green or yellow flesh of the pig melon also known as *ijodo* were boiled together with corn and consumed as a snack. This is a delicate meal which is not taken for its flavor and nutritional value, but also for its cleansing qualities. However, the study obtained that most cash crops were of less significance for most Zimbabweans.

Rodlach (2011) observes that there are cultural meanings attached to food. People from Zimbabwe were convinced that fruits from herbs, tubers, nuts, leafy vegetables and indigenous trees collected in the grasslands were both nutritious and healthy. Furthermore, Zimbabweans believe that a traditional diet could boost the body's immune system of the individuals infected with HIV and prevent the development of AIDS.

The study revealed that consumption of wild fruits and porridge prepared from indigenous grains could strengthen the body and resist HIV. However, such views were only applicable acceptable within the context of frequent usage of indigenous plants for medical purposes. Such understandings could be relevant especially when there is low access to HAART (World Health Organization, 2008).

HAART medication was not readily available to many. Choto (2013) emphasized the importance of good nutrition. Culturally there are beliefs that certain foods have particular health benefits and are regarded as medicine across the world. On the other hand, the study also revealed that in Zimbabwe that proper nutrition and healthy food is unprocessed and natural. It argued that modern processed food did not strengthen the body or its immune system.

Additionally, the urban dwellers were regarded as following diets associated with the weak bodies of AIDS sufferers. In the study it was also discovered that food was a metaphor relating to AIDS problems emanating from social and cultural changes. They regarded traditional food as an ancestral way of life which was regarded as a healthy lifestyle guided by a system of values and norms, synonymous with a lesser risk of HIV infection. Modern food, on the other hand metaphorically represented behaviors carrying a high probability of contracting HIV (Choto, 2013).

2.8 Household demographics

According to Mutenje et al. (2007) households are divided into three main categories namely female headed households, male headed households and child headed households. In their study, households categorized as most vulnerable were those with the least per capita income mainly female or child headed households. This study is consistent with the findings that were obtained by (Foster, 2007) that female headed households are more vulnerable to poverty in most rural areas than male headed households.

Baylies (2002) in Zambia also obtained similar findings that the impact of AIDS on household consumption varies across communities depending on the agricultural system. They discovered that it can also be influenced by size, dependency ratios, the stage of family formation, composition and the lastly the resources endowment. However, in most cases it was stated that illness and death could easily lead to food shortages. Households that have been affected in this area of study were mainly migrant labor and where there were high

levels of poverty increasing the chances of unsafe liaisons. Furthermore the study outlined that AIDS threatens the ability of a family to function as an economic unit leading to a disruption of the entire social fabric of the family.

Krishnan et al. (2008) in their study also documented similar findings. Their study found that when families are financially stressed and could not afford to educate all their children, they normally withdraw girls from school and keeping the male ones. Furthermore, in many cultural contexts girls were intentionally kept out of school to carry out domestic duties or they believed that the education of girls was a waste of resources as they will be married and move to other families. Such disturbances in female's education are associated with early marriages and early initiation to sexual onset and this heightens their vulnerability to HIV. Therefore, female headed families become exposed to poor dietary intake compared to their male counterparts. Female headed households might be unable to buy food to feed their families let alone nutritious food which are considered as expensive.

2.9 Food diversity

According to Tiyou et al. (2012) in Juma Zone South West of Ethiopia, people living with HIV/AIDS with lower food diversity were more vulnerable to food insecurity. The majority of the households reported to have consumed less than 6 food groups constituting mainly cereals (Tiyou et al. 2012).This study is consistent with another study which was conducted in Uganda which showed a sharp increase in a number of food groups consumed in resource rich settings (Prüss et al.2014).

WHO (2003) posit that a nutritious diet contains a variety of food as no single food contains all the required nutrients that our bodies need. A healthy diet for people living with HIV could be achieved by choosing and eating a variety of foods that provide energy, proteins, vitamins, minerals and water. Amine et al. (2002) argue that a healthy diet for people living with HIV could be achieved by choosing and eating a variety of foods from different food groups. This strategy can be adopted to ensure that people living with HIV sustain and are able to return to normalcy. However the major challenge faced by people living with HIV is the lack of proper knowledge and preparation skills which might interfere with the outcomes of good nutrition.

In resource limited areas people might lack fresh fruits and vegetables which is very crucial for boosting their immune system. The local environment might not be producing fruits and

vegetables and people have to buy such from the vegetable market. In most case the fruits and vegetables are expensive and beyond the reach of many people. The other main concern in most cases people living in resource limited areas might lack access to clean water sources and hence this increases the challenges faced by people living with HIV/AIDS on HAART treatment (WHO, 2003).

Clausen et al. (2005) posit that there were so many factors that affect the choices of people living with HIV. A study conducted in Botswana found that older people consumed low food variety with inadequate dairy products, vegetables and fruits. This study was supported by other findings in South Africa in Sharpeville, whereby people with low mean dietary diversity confirmed household food insecurity. However in the same study it was discovered that high food variety intake was associated with urban residence (Este et al. 2010). Whilst other studies confirmed that urban residents has higher consumption frequencies of all the food categories than their rural counterparts. Therefore this might suggests that people living in rural areas in developing countries face increased food challenges than their counterparts.

2.10 Environment and food

Kalichma et al. (2006) in Atlanta, Georgina conducted a study using a sample of 344 men and women living with HIV/AIDS. The study observed that hunger and food insufficiency was prevalent in people living with HIV/AIDS even for those living in resource rich settings. The study indicated that nearly half of the population receiving the ART treatment living in British Colombia and Canada were identified as food insecure (Hogg et al., 1998).

Weiser et al. (2009) also obtained similar finding in San Francisco where homeless and marginally housed people living with HIV/AIDS were severely food insecure. The study also indicated that food insecurity was associated with poor mental and physical functioning, lacking health insurance and low CD 4 count. However, in the US urban centers food insecurity extended beyond the homeless and the marginalized.

In one of the major cities of the South east region of the US, the HIV pandemic was growing very fast, however poverty levels were substantially higher despite stable housing. Kalichma et al. (2010) in Uganda observed that the HIV/AIDS pandemic had increased the inability of affected households to be self-sustainable. The study established that households that were affected by HIV/AIDS had decreased productivity and incurred high expenditures on medical costs. The study used cross-sectional quantitative methods from 144 randomly recruited

households of people living with HIV/AIDS (aged between 15–49 years) residing in Jinja town in Eastern Uganda.

According to Holmqvist (2009) the impact of HIV/AIDS was not equal on rural areas. The poorer households especially with those of poor landholding capacity were less able to cope with the effects of HIV/AIDS than the wealthier ones who can hire casual labor and better manage shocks. Furthermore, the study examined whether people benefited from the sale of assets sold by farm households in the attempt to cope with long drawn out effects of HIV/AIDS. The study indicated that the different changes in the socio-economic structures of the villages, redistribution of wealth and land had adverse effects on extended families.

2.11 Conclusion

Literature reveals that good nutrition is essential for the success of the HAART treatment. The relevance of this study is to help reveal the challenges that are faced by people living in resource limited areas such as Tsholotsho. Some researchers were arguing that poverty is not a disease of the poor or for women, whilst others pointed out that even the rich may acquire the disease. In terms of food availability different ideas were obtained by researchers. It emerged from the information that most communities were relying on wild fruits and plants. Concerns were raised about the sustainability of the natural environment. Furthermore, the literature clearly indicated that most people living in developing countries are adopting the western culture in terms of food choices. This study seeks to find the nutritional challenges that are faced by people living in resource limited areas such as Tsholotsho. The literature that has been obtained so far reflects the settings of developed countries which are not similar in developing countries such as Zimbabwe.

CHAPTER 3: METHODOLOGY

3.1 Introduction

The scale of the AIDS epidemic has exceeded all expectations since it was first identified more than 20 years ago. Over the past few decades this has been a major focus of research but few studies have looked at the nutritional challenges of people living with AIDS. The overall objective of this chapter was to provide insights into the nutritional challenges faced by people living with HIV/AIDS in Tsholotsho. The study draws on qualitative data from in-depth interviews to understand the challenges faced by people living with HIV/AIDS. The chapter starts by providing an overview of the research area. It further outlines the data collection process that was utilized and the sampling procedures used for the study. Furthermore, it describes the techniques of analysis employed to make sense of the data. Finally, the main ethical considerations for the research project were highlighted as well as limitations of the study.

3.2 Study Area

The study was conducted in Tsholotsho, also known as Tjolotjo, located 120km Northwest of Bulawayo (see Figure 3.1). It has a population size of about 120 000 people. It is a predominately Ndebele speaking region, however, Kalanga and San languages are also other official languages found in this district (Ndlovu & Umenne, 2008). Farming is the main economic activity in this area. Generally, the soil in this area is not good for cultivation except for the black clay soils found along Gwayi River though they are very prone to flooding. Ndlovu & Umenne (2008) assert that Tsholotsho has high poverty levels of about 81.1% and is a drought and flood prone area which often leads to livestock starvation and crop destruction. For those who cannot participate on either of the two economic activities the gold mines and farms of South Africa are the only solutions and hence the massive migration to South Africa in this district (Muboko & Murindagomo, 2014).

Figure 3.1: Map of Tsholotsho

Source: Zimbabwe Atlas (1980)

Tsholotsho is a well-known battle ground of Zimbabwean politics between ZANU-PF the ruling party members and Jonathan Moyo. It is also the location of the mass killing in 1983 called Gukurahundi. This was done to suppress civilians, who supported Joshua Nkomo in the Matabeleland regions during the 1980s. Tsholotsho and Lupane were amongst the areas that were largely affected by Gukurahundi. The policemen could pick dozens, or even hundreds, of civilians and march them at gun point to central places, such as a school or bore-hole. Then force them to sing Shona songs praising the ruling party, at the same time being brutally beaten with sticks. Some of the family members were killed in front of their loved one. However, the Zimbabwean government has since denied responsibility of these allegations and accused foreign press of fabricating stories and has not given a full account of what really transpired.

According to Ndlovu & Umenne (2008), the political situation of Tsholotsho before independence and the civil unrest which took place between 1980 and 1987 led to the slow socio-economic development. Accordingly, Tsholotsho have not been receiving any developments funds from the government budgets. Tsholotsho was marginalized by the ruling government and this led to the frustration of the economically active members of Tsholotsho who sought other means of survival. Coupled with unequal opportunities, poverty and political unrest, economically active members of the community migrated to South Africa and Botswana as refugees. Ndlovu & Umenne (2008) assert that in the Tsholotsho village there is a rapid development of affluent architectural buildings. Consequently, higher

aspirations, foreign influence and rising incomes have led to a revolutionary transformation of the architectural buildings in this area. Unemployment is very prominent in Tsholotsho, leading to the stratification of the communities in terms of the poor and the non- poor. There is huge inequality in Tsholotsho because of different levels of income. Some families receive remittances whilst others are not even engaged in any income generating activities. The Tsholotsho community have been largely stratified and this evidenced by the different dwellings that are observed in this area.

Figure 3.2: The different types of dwellings in Tsholotsho

3.3 Research Approach

A qualitative approach was used for the purpose of this study. This approach attempts to describe and understand human behavior rather than explain and predict it (Mounton, 2001). According to Barbie & Mouton (2011) qualitative research uses an explorative and elaborative approach. It does so by outlining the lived experience of a subject, and the meaning the subjects attached to the phenomenon under investigation, whereas quantitative research on the other hand involves the measuring of events, counting and performing statistical analysis of a body of numerical data (Smith, 2004)

Qualitative research approach was used in this study because of its explorative potential in describing nutritional challenges faced by people on HAART in Tsholotsho, Zimbabwe. The

approach was regarded as the most appropriate because rather than just explain the nutritional challenges faced by people living in Tsholotsho it further describes and outlines these effects as per the objectives of this study. A qualitative approach focuses on the subjective experiences of individuals and is sensitive to the context in which the community members interface with each other (Barbie & Mouton, 2011).

Creswell et al. (2003) posit that a qualitative method normally produces rich data obtained from a limited number of individuals. The data collection methods of qualitative data include observations, group or individual interview and life stories, whereas quantitative methods involves representation of an empirical system in a numerical system for the purpose of reasoning analytically within the numerical system. These included examining and dealing with issues in detail and in depth. Additionally, interviews are not restricted to specific questions but are guided by the researcher in real time.

Qualitative research methods have been criticized by scholars for their subjectivity (Saunders et al. 2000). The method could be easily be influenced by researcher induced bias and the scope is limited to in- depth, comprehensive data gathering approaches are required. Additionally, the validity of information gathered may be another major challenge. Research quality is heavily dependent on the individual skills of the researcher and more easily influenced by the researcher's personal biases and idiosyncrasies. The researcher's presence during data gathering, which is often unavoidable in qualitative research, can affect the subjects' responses. However, some critics argue that qualitative methods can be quickly revised as new information emerges. Data based on human experience obtained is usually powerful and sometimes more compelling than quantitative data. For this study qualitative methods were chosen because of their ability to gather large amount of data from human experiences. Qualitative methods used in this study included face-to-face in-depth interviews, and focus groups.

3.3.1 In-depth interviews

In total, ten in-depth interviews were conducted. All interviews were conducted using face to face interviews at the home of the participants. Each interview was conducted at a meeting place identified by the participant such as at home or any place that would ensure maximum privacy. The sampling method used was non-probability, purposive sampling, which sought to gain insight into the participant's experiences of the nutritional challenges that are faced by people living with HIV/ADS. The interview consisted of a list of questions relating to the

study. The interview schedule involved open-ended questions. The open-ended questions covered themes of relevance to the study. The questions were divided into sections. Firstly, the participants were asked about their socio-economic and demographic characteristics, followed by the challenges that are experienced by people living with HIV/AIDS to acquire nutritional diet, their cultural norms, social support system and lastly the impact of globalization on the type of food they consumed, see (Appendix I).

Four key informants and ten individuals were chosen using purposive sampling who were already clients of the National Aids Council programme in Tsholotsho. The key informants included one District Aids Coordinator, two Nursing Officers and one representative of non-governmental organizations operating in Tsholotsho District. An equal numbers of women and men were chosen to ensure gender representation in the study. The non-probability sampling approach adopted was purposive sampling. Using this approach, the researcher selected a sample on the basis of the knowledge of the population, its elements and research aims (Barbie & Mouton, 2011).

Patton (2002) argued that there is need to select information rich cases in purposive sampling. Purposive sampling procedures were used. Its advantage is that people who did not meet the requirements were eliminated; it is less expensive and involves less research costs. Its major drawback was that the researcher could be wrong in choosing suitable participants (Gillham, 2000).

The researcher invited all the participants to a meeting and introduced the study. At the meeting, the researcher briefed the participants of the main purpose of the study and addressed any concerns with the research. Those who were interested in participating in the study made bookings with the researcher to be part of the study. The selected participants were five women and men living with HIV/AIDS and on HAART treatment. The participants who agreed to participate in the study were presented with informed consent forms to sign. The researcher sought permission from the participants prior recording the interviews.

3.3.2 Focus Group Discussions (FGDs)

In total, twelve focus group discussions were held. Krueger & Casey (2009) defines focus groups as small groups consisting of between twelve to fifteen people that are brought together to engage in discussions pertaining to a particular topic. This method has advantages

which includes enabling the researcher to employ visual aids, to push the discussion further and can ask a variety of questions open ended and structured (Rubin & Babbie, 2005).The researcher used purposive sampling to select the twelve individuals who participated in the focus group discussions. Focus groups discussions were held at community meeting points. The researcher invited all the participants who wished to participate in the study and explained the purpose of the study. The researcher addressed any concerns with the study and explained how the participants will contribute to the outcome of the research. Focus groups consisted of both men and women linked to the support groups of people living with HIV. Focus groups discussions were held at the venues where the participants normally met for their support group meetings. Group discussions were conducted in the language of choice of the participants.The participants who agreed to participate in the study were asked to sign informed consent forms. They were also asked if the focus group discussions could be recorded. After obtaining permission from the focus group participants all the discussions were recorded and were later transcribed verbatim and translations were done where necessary.

The focus groups discussions consisted of twelve individuals chosen using purposive sampling. The main purpose of focus groups research is to draw upon respondents' attitudes, feelings, and beliefs, experiences and reactions in a way in which would not be feasible using other methods, such as observations, one on one interview, or questionnaire surveys. These attitudes, feelings and beliefs may be partially independent of a group or its social settings, but are likely to be revealed via the social gathering and the interaction which being in a focus group entails.

3.3.3 Case study

According to Robson (2002) a case study is defined as a strategy for doing research involving empirical investigation of a particular contemporary phenomenon within its real life context using multiple sources of evidence. In this study the nutritional challenges that are faced by the people on HAART treatment was explored in detail in order to understand how it impacts the efficacy of the HAART regimen. The research strategy employed in this study was the case study method.

Tham et al.(1991) posits that a case study enables the researcher to gain rich understanding of the context of the research and the processes being enacted. The case study enables the researcher to gain inside information on the challenges that are faced by people living in with

HIV/AIDS in Tsholotsho. It reveals some of the reasons why people living in such settings may not reap maximum benefits of using HAART treatment compared to resource rich settings. This research uses exploratory research.

According to Robson (2002) exploratory research is a means of finding out what is happening, seeking to obtain new insights, asking questions as well as assessing the phenomena in a new light. The research considered using the single case study thereby representing the critical case or unique case of people living in Tsholotsho. This place has limited resources but with high levels of HIV infections. The research employed the holistic approach as data was collected from Tsholotsho area and analyzed Saunders et al.(2000).

3.3.4 The Process of Data Collection

The respondents were presented with consent forms for signing to indicate their understanding of the purpose of the study and their willingness to participate in the study. They were also asked to give their consent to the interview being tape recorded. The respondents were assured of confidentiality and were also given assurance of anonymity. In the study, pseudonyms were used in the reporting of findings.

The consent forms were signed by participants to indicate their understanding of the study and to indicate their voluntary participation in the study. The participants were furthermore, asked to provide consent to tape record the interviews. Confidentiality was provided to all the research participants through use of anonymity and pseudonyms in the reporting of findings. The interviews each lasted for approximately 45 minutes. Most of the interviews were conducted in the common language isiNdebele. But however before the commencement of the study, the researcher asked the participants to choose the language that they preferred to be interviewed in either in English or in isiNdebele. All the interviews were recorded.

3.4 Data analysis

According to Miglia et al. (2011), the main purpose of data analysis in qualitative research is to manually organise and arrange information as it is the most critical aspect of the qualitative research process. The data was collected through data recording, transcription, and notes taking, and then it was further analysed using thematic analysis. Transcriptions were used in analysing data and findings; however transcribing was time consuming and great work, especially translating from isiNdebele to English.

Once data was collected from the in-depth interviews, thematic analysis was then applied to the study. The thematic analysis approach is suitable for the study of qualitative research. The following steps were followed to analyse data: transcripts were coded using the participants' own words and phrases without preconceived classification, the language or phrases were examined; categorised and recurrent themes were identified. Examples of explanations, repetitions, vernacular terms and justification were noted. These were coded with key words that captured the essence of the content, and were taken to constitute emergent themes (Miglia et al., 2011).

According to Braun (2006), thematic analysis entails analysing, identifying and reporting patterns (themes) within data. It minimally organises and describes data set in more detail. Thematic analysis searches for themes that emerge as being important to the description of the phenomenon. According to Jennifer & Eimear (2006), identifies thematic analysis as the identification of themes through careful reading and re-reading of the data. It formulates pattern recognition within the data, where emerging themes become the basis for analysis. However, normally it goes further than interpreting various aspects of the research topic, reading and reflecting on the written transcripts and recorded tapes. After transcribing, codes were generated. The process of coding involves organising data into meaningful groups, tags and labels. The data was then sorted by themes. Themes are developed from the generated codes and during the process of coding themes emerged (Koch, 1994).

3.5 Ethical considerations

Before the study commenced, a proposal was submitted through the School of Built Environment and Development Studies and the ethics committee at the University of KwaZulu-Natal. As a result of the sensitivity of the nature of the study, measures were taken to ensure that the interactions between the researcher and participants were always respectful, ensuring that the autonomy of the participants were always upheld. All interactions from the respondents were completely voluntary and only those willing were recruited to participate in the study.

Respondents were presented with the informed consent letter to sign, which were translated to the local language (IsiNdebele) to ensure that the participants fully understood what it meant to participate in the study. Therefore, each respondent had an opportunity to choose to participate in the study. Each respondent was presented with the purpose of the study, and

what is expected of them, and how confidentiality will be maintained, the contact details of the researcher and that of the supporting institution (See Appendix II)

During the process of data collection period, confidentiality was maintained through the use of private venues. Interviews were transcribed using pseudonyms to ensure animosity of individuals. All the digital recordings of the study will be kept at the University for 5 years and thereafter destroyed to ensure the protection of confidentiality of each participant.

The researcher firstly introduced herself and then later explained the purpose of the study and entertained questions from the prospective respondents. The participants were informed about their voluntary participation and that they could withdraw from the study at any point if they wished to do so. Furthermore, participants were also informed that once the report had been completed the researcher would destroy the transcripts and audiotapes. Additionally, the researcher informed the participants that professional counselling was provided in the event that the study brought distressing emotions or memories; participants would be referred to the local clinic, Nkunzi Clinic.

3.6 Limitations of the study

HIV/AIDS is a sensitive issue globally and this required more privacy when dealing with participants. In this regard, some of the respondents might have withheld certain information, thereby not answering the questions honestly. Lack of availability of financial incentives for participation in the study might have also contributed negatively on the motivation for the respondents remaining loyal to the study. Some of the respondents withdrew from the study probably as a result of lack of financial incentives. Furthermore, the fear of stigmatization and discrimination might also have contributed to unwillingness of others to participate in the study as they fear to be victimised. Lastly, the study used qualitative methods to obtain insight into the respondent's experiences. However, through the use of qualitative methods the sample chosen does not represent the entire population which limits the quality of the information obtained. The participants chosen in the study were only a portion of the population. Therefore, there was under- representation of the people living with HIV in Tsholotsho. The study was done in a small geographic area of Nkunzi area which is situated in Tsholotsho. It would have been ideal to have interviewed more respondents living in other parts of Tsholotsho area to obtain more information; however qualitative methods require time and money to gather.

3.7 Summary

This chapter discussed the research methodology used in the research the qualitative approach. It also outlined the research design used in the study as the case study approach. Data collection methods that were used included in-depth interviews and focus group discussions. The research methods used were evaluated indicating their strengths and weakness as tools for collecting data for the research. Data analysis methods considered for the study were discussed in depth indicating its usability and appropriateness. The research ethics observed during the study were also discussed in detail.

CHAPTER 4: RESULTS

4.1 Introduction

The aim of this study was to understand the experiences of living with HIV/AIDS while being on HAART regime in a context of economic crisis in Tsholotsho, Zimbabwe. The specific objectives of the study related to exploring how people on HAART have been affected by the economic crisis in Zimbabwe, ways of surviving the challenges, and people's perceptions of the indigenous as compared to western nutrition. To achieve the objectives, the study drew on qualitative data collected from a sample of people on HAART, key informants and focus groups. This chapter outlines the findings of the study. It starts by describing the demographic characteristics of the sample of men and women living with HIV/AIDS living in Tsholotsho. The chapter first presents results pertaining to how the economic crisis has impacted on HIV/AIDS patients' access to nutrition. This is followed by results on coping strategies used by HIV/AIDS patients to overcome challenges of accessing nutrition. Thereafter results on patients' appreciation of indigenous and western nutrition are presented.

4.2 Demographic profile of the participants

The demographic profile of the participants is very essential in the understanding of the sample profile of the people living with HIV/AIDS. The sample consists of five men and five women living with HIV/AIDS and three health practitioners. All the participants indicated that they were born and grew up in Tsholotsho, Zimbabwe. The study indicated that all the participants were knowledgeable about the kind of food that is recommended for people living with HIV/AIDS; however they were not able to buy the food because they did not have the resources.

The participants indicated that being HIV positive was normal in their community and they are very free to go and collect their medication without any fears of being stigmatized. The majority of the participants indicated that food availability was a great challenge as they previously used to get food aid from World Vision and Christian Care. The participants further elaborated that this facility was removed towards the last elections in 2012, when the NGOs were suspected to be funding the opposition parties. The respondents expressed concerns about food security as Tsholotsho is a dry area without adequate rainfall and without any industry. They indicated that their lives were threatened further because of these developments. Some of the respondents indicated that they received groceries and

remittances from their relatives working in South Africa and Botswana. Table 4.1 presents the characteristics of people living with HIV and are on treatment.

Table 4.1: Sample Characteristics of Participants of In-depth Interviews

Interview	Pseudonym	Age at interview	Marital Status	Duration on HAART	Disclosure of HIV status to family	Sex	Occupation
1	Sibongile	34	Single	10 years	Yes	F	Unemployed
2	Zanele	38	Widower	13 years	Yes	F	Unemployed
3	Ncedani	35	Married	13 years	Yes	F	Unemployed
4	Sikhululiwe	35	Divorcee	15 years	Yes	F	Teacher
5	Sinikiwe	28	Single	10 years	Yes	F	Unemployed
6	Thando	38	Single	10years	Yes	M	Farm worker
7	Dumisani	32	Married	9 years	Yes	M	Shepherd
8	Jabu	27	Single	11 years	Yes	M	Unemployed
9	Vuyo	34	Divorcee	12 years	Yes	M	Farm worker
10	Mlamuli	35	Divorcee	15years	Yes	M	Unemployed

*NB: the names provide are not the participants' real names

The majority of the participants indicated that they were not formally employed; only one person was employed as a civil servant a primary school teacher, while two of the respondents were employed as shepherds in the community. Two of the respondents were employed as farm workers in the nearby cattle ranches.

Table 4.2: Sample Characteristics of Participants of Focus Groups

Interview	Pseudonym	Age at interviews	Marital status	Years on HAART treatment	Sex	Occupation	Disclosure status to family
1	Sanele	25	Single	2 years	F	Unemployed	Yes
2	Nomsa	27	Single	3 years	F	Unemployed	Yes
3	Ethel	25	Single	4 years	F	Self-employed	Yes
4	Mavis	28	Married	5 years	F	Self-employed	Yes
5	Nomqhele	29	Married	3 years	F	Unemployed	Yes
6	Brenda	30	Divorcee	6 years	F	Unemployed	Yes
7	David	31	Single	5 years	M	Self employed	Yes
8	Blessed	32	Married	8 years	M	Unemployed	Yes
9	Calvin	36	Divorcee	6 years	M	Shepherd	Yes
10	Themba	32	Single	7 years	M	Shepherd	Yes
11	Zibusiso	34	Married	10 years	M	Unemployed	Yes
12	Thabani	33	Divorcee	9 years	M	Unemployed	Yes

*NB: the names provide are not the participants' real names

The majority of the participants indicated that they were not formally employed, four female participants were unemployed and two females indicated that they were self-employed. Three males were employed as Shepherds in the nearby farms, three males also indicated that they were not employed and lastly one male indicated that he was self-employed. Five of the focus groups discussions indicated that they were single, three of the participants indicated that they were divorcees and four respondents were married during the time of the interview.

4.3 Effect of the economic crisis

The economic crisis in Zimbabwe affected the respondents in several ways which include limiting job opportunities, retrenchments, loss of income sources, and shortages of drugs. The closure of many companies in Bulawayo city, and in the country as a whole, meant that extended family networks that used to help with accessing adequate nutrition ceased to be a

source of assistance. All the respondents indicated that they faced challenges in maintaining the recommended diet due to lack of economic activities in Tsholotsho. Most of the respondents indicated that due to economic marginalisation the majority of the economic active group are migrated to the neighbouring countries. Some of the respondents who claimed to receive remittances stated that the use of other currencies such as the Rand and Pula in Tsholotsho were affected by fluctuating exchange rates. This is because when Zimbabwe introduced the multi-currency system, prices were pegged against the United States dollar (US$). Consequently, any fluctuations in exchange rates mean that the value of the other currencies (like the Pula and Rand) in terms of purchasing power parity was lower in Zimbabwe compared to Botswana and South Africa. Some respondents, one of whom was a primary school teacher indicated that they received assistance in the form of groceries and money from abroad. Other respondents indicated that they neither had any income nor received remittances from their relatives. The following statements illustrate the buying power of people residing in Tsholotsho:

> *"I usually receive remittances from my brothers and sisters working in South Africa. They usually send R 1500 every month for buying food for the whole family if they fail to send groceries. Now the exchange rate is bad especially in Bulawayo where we normally buy the groceries. There are people who change money for us in the black market into US dollars which is now the most prevalent currency. This money is not sufficient to buy all the basic food that we need let alone the nutrient rich food required by people living with HIV/AIDS" (IDI, Jabu, 27 years)*

> *"I receive remittances from South Africa; my brothers also state that they are facing economic challenges abroad. At times they send money which when we change to US dollars is very little" (IDI, Mlamuli, 35 years)*

He added:

> *"Things have changed, I remember when my brothers used to send R100 during that time of the Zim $, it used to be enough and we could buy everything including some luxury goods. Recently, the economic condition in Zimbabwe is very turbulent. People who receive rands like us are facing challenges" (IDI, Mlamuli, 35years)*

"I do not have any source of income and my family cannot afford to buy the recommended diet. I don't even bother myself following that diet that we are told by the doctors. I used to manage very well during that time when we used to receive food parcels from the World Vision. I was very healthy, look at me now, l am very weak and thin because of not eating healthy yet taking the live saving tablets" (IDI, Ncedani, 35 years)

She added:

"My family sold all the livestock we had in the period of 2002 to buy low cost generic antiretroviral drugs. The ARVs were extremely expensive and could only be afforded by rich people. My family decided to sell all our livestock so I could get medication" (IDI, Ncedani, 35 years)

One of the key informants further indicated that the socio- economic environment of people living with HIV/AIDS were characterised by droughts, dry spells and sometimes heavy floods which increase the vulnerability of the people living with HIV/AIDS in Tsholotsho. The discussions with the key informant revealed that faced with unbearable economic conditions, the economic active youth migrated to the neighbouring countries for sustenance. Sanele a 25 year old one of the focus group respondents indicated that her weak body was a barrier to her attaining a healthy life style because she did not have the man power required to cultivate the fields. She also indicated that on a normal rainy season households in Tsholotsho have the capacity to acquire more than enough to feed their families and become self-reliant. The following statements reveal the economic conditions faced by people in Tsholotsho area:

"As a result of the lack of a vibrant economy in Tsholotsho since early 1980s coupled with droughts and dry spells. Most of the economic active generation of this area have migrated to neighbouring countries. This place is characterised by dry spells and droughts, heavy floods and hunger is prominent in this place. There are no jobs opportunities in this place and the infrastructure is not developed hence no businesses people are investing in our area" (KII, District health officer)

"I do have personal funds as I am not employed. I am not self-sustainable I rely on other people to provide the required diet. I am too weak to go to the fields in order to cultivate the fields which on a good season we have bumper harvest which enables households to be self-reliant" (FGDs, Sanele, 25 years)

Most of the respondents felt that their economic situations were worsening, prohibiting them from obtaining a healthy diet. The economic state of Zimbabwe has been deteriorating again beginning in the year 2013, worsening economic situation and making it even harder for people living with HIV/AIDS in Tsholotsho. Furthermore, given that Tsholotsho is a very dry place not suitable for growing vegetables, the lack meaningful industrial economic activity which can provide a source of income for community worsens the plight of most HIV/AIDS patients. Additionally, some of the people living with HIV/AIDS indicated that due to deteriorating economic situation, they decided to leave the urban areas to settle in rural Tsholotsho because people in towns were becoming increasingly occupied with searching for means of sustenance and were thus left with no time to provide care for them. Ever since they went back to Tsholotsho some of the respondents indicated that due to hardships they faced whilst they fell sick in the city they decided to remain in their rural homes. One of the respondents indicated that in the early 2000s the ARVs were not freely provided but were sold to those who needed them. This meant that only the rich could afford to buy. Some people resorted to selling their livestock in order to save the lives of their loved ones. Consequently, families were left less able to provide sufficient nutritional requirements because livestock forms an important source of nutrition in Tsholotsho mainly in the form of milk.

4.4 Dissolution of Safety Nets

In the light of the socio-economic instability emanating from the political environment of Zimbabwe beginning at the turn of the 21st century, most families in Zimbabwe diversified sources of sustenance through sending members abroad, mainly to neighbouring South Africa and Botswana. This enabled many families to access adequate nutrition especially during the dry season when farm produces are exhausted. The respondents indicated that this formed a part of their life until around the year 2010 when the restrictions on imports particularly cooking oil, soap and other items were instituted. This was worsened by the 2009 world recession that badly affected the value of the South African currency. As a result, remittances from relatives based in South Africa were increasingly becoming insufficient. Furthermore,

the political environment in Zimbabwe also affected the operations of non-governmental organisations operating in the country. For example, one participant reported that they used to receive food parcels from World Vision and Christian Care but, the donations were discontinued after the two NGOs decided to relocate and suspended their services in Tsholotsho because of the untenable political environment. Some of the respondents reported that their families and extended relations at times were no longer able to assist because they were also badly affected economically. Moreover, the community safety nets were no longer reliable as people have been already been exhausted by the impact of HIV/AIDS over the last two decades. The Pen 3 model focuses on the various aspects of cultural identity, cultural empowerment, and relationships and expectations. This theory helps to describe the current economic crises and the stance taken by the government towards its people. The government's inability to provide a social grant to those suffering because political issues prohibits the smooth operation of humanitarian organisations is a clear indication of the fact that the roles and responsibility of the government were no longer observed in the Tsholotsho community. On the other hand, people in Tsholotsho also lacked the initiative to empower themselves by starting income generating projects instead of waiting for humanitarian aid. This suggests that Tsholotsho community was culturally weak and were not empowered to be independent individuals who could make sound decisions. This can also be evidenced by the fact that the study observed that most of the economically active men of the community had fled to the neighbouring countries instead of finding solutions of converting the area into an economic hub.

These challenges are illustrated in the quotes from the HIV/AIDS patients below.

> *"We used to receive food parcels every month which contained all the basic commodities such as mealie meal, beans, cooking oil, and flour and Amahewu powder. This cushioned us from becoming destitute but that was in the past, now we don't because World Vision suspended their operations here" (IDI, Dumisani, 32 years)*

> *"My neighbour is very kind and generous and by the time she discovered that l was HIV/AIDS and my family was not financially stable they offered to help. Some of our relatives were no longer willing to extend help to our family. They have also been affected by HIV/AIDS because the people who employed are the one who died from it. We now have so many orphans in our family" (IDI, Sinikiwe, 28 years)*

"I do not receive any support from my family especially the extended family because they considered HIV/AIDS as a disease of promiscuous people. They used to warn me during the times l was firstly engaging in parties and dangerous women. I at times do not get food to take along with the medication. But l have brothers and sisters living abroad who are living a luxurious lifestyle" (IDI, Mlamuli, 35 years)

The comments above indicate that lack of safety nets was a great challenge; it exposed people to poverty. Community safety nets were discovered to be stronger when compared to extended family nets. Families and extended families have been worn out by the adversity of HIV/AIDS. The respondents also indicated that due to lack of safety nets they were unable to adhere to their treatment. They revealed that the extended safety nets were no longer effective in Tsholotsho area especially because families are also struggling on their own. They indicated that extended families might also be failing to meet their own needs but the issue of HIV has worsened the extent to which extended families could provide relief to their kin. The respondents indicated that the community safety nets were however, still effective in the Tsholotsho area more than the extended family safety nets although their capacity is reduced. When considering the conceptual theory underlying this study, it can be observed that the Pen 3 model was relevant for the study as it placed emphasis on the values of the extended family and community's ability to influence the behaviour of the individual This theory was particularly effective in explaining that due to broken relations among extended family members people living with HIV/AIDS's ability to provide relief has led to non-adherence to treatment. In this study the values of extended families had changed due to the impact of HIV/AIDS in the African communities which were well known of Ubuntu, therefore reducing the ability of most extended family members to stretch a hand towards families affected by HIV/AIDS. Furthermore the toll that AIDS has had in most families has also contributed to the sudden change of the commonly shared values of extended families caring for each other during times of trouble.

4.5 Lack of food leads to non-adherence

Some of the respondents claimed that at times they did not take HAART treatment due to food shortages; they only resumed their treatment when they received food. Furthermore, the respondents stated that in the absence of a meal they will opt not to take the medication because it is a requirement that the treatment should be taken after a meal. Some of the respondents claimed that taking the treatment without food would cause them to feel dizzy

and therefore to avoid the trouble they would rather not adhere to the treatment even though they knew the consequences of non-adherence. Sikhululiwe, a 35 year old primary school teacher had the following to say;

> *"I normally eat twice a day in the morning and in the evening, and at times I do not have food to take along with the medication. If I didn't have many dependence especially the kids, mine and the five were left behind by my two sisters who passed away, I was going to have less problems have enough food all the time" (IDI, Sikhululiwe, 35 years*)

> She added

> *"It was worse in 2008-2009 periods before dollarization because the salary was just worthless, it was not even enough to buy enough food for a week. Sometimes I would not take the medication because of lack of food" (IDI, Sikhululiwe, 35 years)*

Non adherence to the regimen as a result of lack of food was also highlighted by one of the nurses participating as a key informant. She however stated that they continue to encourage patients to stick to treatment prescriptions although they empathise with the patients' plight of food shortages.

> *"Some of the people living with HIV come to the clinics very sick and when we ask them they tell us they stopped taking their medication. The main reason which causes them to die is non adherence. Most of the participants complain that taking tablets on an empty stomach is very difficult and it has after effects such as dizziness and nausea. However, as health practitioners we encourage them to eat anything available before they take the tablets. Most of the people who die whilst taking the HAART would be as a result of lack of adequate food to help the body recover" (KII, Nurse 1)*

Ncedani, a 35 year old unemployed married mother of three who is currently on HAART, stated that it is very difficult to plan for a meal that she is not assured that she will get. Her husband immigrated to South Africa in 2008 and stopped supporting her in 2012. She stated that hunger and starvation has caused her to be a beggar in the community and she now survives on hand-outs from generous neighbours. She also indicated that some of the neighbours have grown tired of helping her and at times she goes to bed on an empty

stomach. Furthermore, she indicated that some neighbours were no longer willing to give her food to go and cook for herself instead they will give her already cooked meals

> *"I usually eat twice daily and at times I do not get food to eat in the morning and evening. I have grown to be resistant to hunger and my body doesn't feel the hunger anymore. But the only problem is that I am very weak now" (IDI, Ncedani, 35 years)*

> She added

> *"I rarely plan my meals because I don't know where the next meal is coming from. At times, I sleep on an empty stomach and l stop taking the HAART treatment" (IDI, Ncedani, 35 years)*

The circumstances characterising Ncedani's challenges are similar to Mlamuli's whose wife also left Tsholotsho for South Africa. Mlamuli reported that his wife reneged on her promise to support him while he recovers physically before he can join her in South Africa. He also indicated that the he used to receive food parcels from World Vision and the Roman Catholic. When asked to describe his everyday challenges, Mlamuli had the following to say;

> *"I normally eat twice a day but I often lack relish to eat along with the pap. It was much better when we received food parcels from World Vision and Roman Catholic Church. My situation is a bit complicated as I am married but my wife decided to go to South Africa when I fell sick. Since then she has never sent anything or has never come back to see me or the children. My relatives working in Johannesburg often say they see her in the streets of Hilbrow at night in night clubs and pubs. It seems she has forgotten about me and the children. But when she left Tsholotsho, she left when I was a bit stronger and we had agreed that she will be sending money and food till I could also be able to join her and we will help each other to raise our family" (IDI, Mlamuli, 35 years)*

Reliance on other people proved to be a common aspect among the patients and this posed problems of reliability of assistance. This was also highlighted by one of the health practitioners working in Tsholotsho who indicated that lack of job opportunities for people living with HIV/AIDS is rendering the patients more vulnerable to hunger. This can be seen in the following illustration;

"Some of the people living with HIV on HAART treatment are heavily dependent on other people to ensure that they obtain the required diet. This poses a challenge in the sense that if those people become unreliable this affects our patients. The social welfare department in our country is no longer able to provide for the needy like it used to do before the introduction of the ESAPs in the early 1990s. Besides, in this economic climate, job opportunities are even slimmer for those living with HIV/AIDS especially as most of them in this [Tsholotsho] *area do not have much educational qualifications"(KII, Nurse 2)*

Given that the majority of the HIV/AIDS were unemployed, the lack of **a** regular personal income impacted negatively on the patients' planning with regards to nutrition. Only three respondents indicated that they received a regular salary. Out of the three employed respondents, one was formally employed by the government and was guaranteed of her monthly income. The other two were domestic workers receiving salaries from their employers residing and working in South Africa. However, the salaries are paid in South African currency; the value of which fluctuates and at the time interviews was very weak compared to the US dollar which is preferred in the shops.

All of the respondents indicated that they did not have snacks in between their meals. Hence, they survived on two meals a day, unless there were wild fruits in season. These are normally used as their snacks. Most of the participants indicated that they loved these and considered it as very nutritional. They mentioned that most of the fruits were very delicious and had high nutritional content which can never be matched to the exotic fruits. These are some of the comments that illustrate the situations faced by the respondents:

"I do not have any reliable source of income; I rely on the remittances that are sent to the family back home. My brothers usually send about R 1500 per month to buy food if they don't send the groceries. I do not have control on what is bought and how the money is spent. My brother's wife has the final say on what she buys. She usually spends the money on herself and sometimes she doesn't buy enough food for the whole month" (IDI, Jabu, 27 years)

Some of the respondents indicated that due to lack of independence they did not have control of what they would eat. Some young males were still staying with extended family members in the home. Some of the family members would discriminate against the people living with HIV/AIDS who depend on them for food. The respondents indicated how the rivalry

between the sister in law and him was so unbearable. He stated a scenario whereby the sister in law will sabotage him by cooking food late just because the food will be bought by her husband. On the other hand the respondent indicated that they were working but had too many responsibilities. Therefore both the participants failed to meet the required diet due to different challenges of depending on other people and juggling between the competing needs of family and the individual working. The following quote illustrates this:

> *"I receive a salary from being employed as a farm worker in the nearby farms. The salary is not enough for me to buy the recommended diet. I work very hard in the farm but the Farm owners pay a little salary and give us milk and other farm produce. This is not sufficient enough for me and my siblings. I also look after them because our parents passed away a long time ago. I am the bread winner and l pay fees for them and take care of their day to day needs (IDI, Thando, 38 years)*

> *"My brother's wife discriminates against me all the times she says I must go to the person who gave me HIV. At times she cooks food late beyond the time I am supposed to be taking my medication. The living conditions are very difficult for me now, as l don't have a job to enable me to be independent" (IDI, Jabu, 27 years)*

One of the respondents indicated that during the dry season when there will be no food from the farms, they ate pap with salt or sugar in order to survive and be able to take their medication. The respondents indicated that they lacked nutrient rich food during the dry season. The situation improves for availability of nutrient rich diet during the harvest season where farm produce will help them to eat healthy and locally available produce such as pumpkins, ground nuts, round nuts, okra, water melon and sweet potatoes. These farm produce help in the diversification of the meals of the respondents which in turn helps boost the immune system of the people on the HIV treatment. This is indicated in the following quotations;

> *"Food diversity is only there during harvest time when there are different fruits and vegetables growing in the vegetation such as okra, pumpkin leaves and other green leafed vegetables. My grandmother has a special way of cooking these natural vegetables such that they are appetizing" (IDI, Dumisani, 32 years)*

"I do have meal diversity during the harvest season; we eat our traditional meals which include inkobe, umxhanxa, amazambane (ground nuts). But during the dry season, I normally eat the same relish which is normally dried vegetables called umfushwa. When the situation is bad we at times cook the dried vegetables without cooking and tomatoes. It is one of our favourite relishes but when consumed everyday especially without the other ingredients it becomes monotonous and boring as well as less appetizing" (IDI, Sinikiwe, 28 years)

The above quotes illustrate that the challenges experienced by patients also come from the seasonal rains. Other challenges were highlighted by health practitioners since some of the patients were oblivious to them. One health practitioner working in Tsholotsho highlighted the effect of illiteracy among some of the patients which makes it difficult for them to adhere to regimen specifications. Because of illiteracy, some patients are not able to read the instructions written on their cards and this reduces likelihood of patients following the instructions accordingly. The respondents who participated in focus group discussions indicated that education was not regarded as a priority unlike all the other Zimbabwean provinces although Zimbabwe has high literacy levels. The participants indicated that a completion of a Grade 7 was good enough for their children to go out of the country and look for employment in neighbouring countries. They disregarded formal education and considered it as a waste of time and resources and that is the mentality that is shared by almost everyone within Tsholotsho Region. Focus groups indicated that this part of the country was performing badly academically. They claimed that the children had no interest in education as they saw their brothers who did not complete formal education going to South Africa and coming back home driving their own cars. The focus groups indicated that these people were probably involved in illegal activities abroad such as armed robbery, drugs and prostitution.

This is evident from the fact that from the ten respondents who were chosen to represent the entire population only one person was formally employed and others were not eligible for formal employment. Some of the respondents indicated that they did not read the ingredients and the food labels on the food packages. This might be factor arising from the fact that the literacy levels were very low in Tsholotsho region. The respondents indicated that going to school was an important issue to them because there is no one in particular from Tsholotsho who was gainfully employed in Zimbabwe except for the teachers who were also not fairly remunerated. They stated that the few that have high education attainment still face the same

economic challenges faced by the illiterate ones. Therefore the average Tsholotsho resident is not motivated to study because of the economic hardships experienced.

Two of the key informants interviewed indicated that children from Tsholotsho grew up with no interest in formal education. They further claimed that people in Tsholotsho were motivated by the success of neighbours who migrated and lack ambition. Most of the children when you ask them what they want to be they say want to be an *injiva* (name given to Zimbabweans working in South Africa). This is related to the Pen 3 model which analyses the psychological statuses of people living within a certain community. Therefore using this theoretical framework provides a clear picture of the prevailing mind set of a common individual residing in Tsholotsho community. The model helps to shed more insight on the influence of the others in the community that helps shape decision making for individual households. This is best illustrated by the fact that most of the children in this community share similar attitudes towards formal education and materialism. The following comments reveal the situation facing people living with HIV/AIDS:

> *"The people living in Tsholotsho are not motivated by educational attainment. We have a challenge because we have to explain to our patients the importance of adhering to nutritional meals. Most of them cannot read instructions on medications and follow because of low literacy levels. We are not guaranteed on their ability to read ingredients and food labels. At times we provide them with cooking skills on how to cook local meals in nutritional way. Some of them can't even follow the simple recipes provided" (KII, District Officer)*

> *"The highest level of education that l have attained is Grade 7. I have never had an interest in pursuing my studies because during the 2007 and 2008 period when l was still studying. There were no teachers, because the government was no longer able to pay them. Furthermore, education was not an option because of high unemployment rates in Zimbabwe. Therefore, the recipes and ingredients becomes a challenge to follow because of illiteracy. When buying food, I seldom check for nutritional values of meals. Food preparation skills are a challenge as well, we rely on our traditional ways of cooking most of the times" (IDI, Jabu, 27 years)*

> *"I just went up to secondary level but l fell pregnant when l was doing the O' level. So l had to drop out because the government does not allow pregnant students to continue with schooling; however our school had high staff turnover of teachers. I can read and write but following recipes and checking for ingredients when buying food stuffs l do not normally do. I am also not very good with cooking skills as l didn't pass food and nutrition" (IDI, Sinikiwe, 28 years)*

> *"Most of the people here in Tsholotsho cannot follow instructions on the food packages due to low education attainment. I remember during the time World Vision was still in operation there was an incident which took the Tsholotsho by storm. There was one specific food parcel that was distributed during a certain time, which required be soaked and cooked for a long period of time. The recipients of the food parcels were oriented on how to cook it but still most of them were half cooking the food which caused the people to have running stomachs. After a number of people experienced the same challenge, the villager decided to blame World Vision that they were donating expired groceries. This almost caused problems for the organisation which was trying to reach out" (KII, District health officer)*

He added

> *"The province has been performing very badly academically despite so many efforts done by the government in ensuring that the province receives well qualified teachers. The majority of the population here in Tsholotsho have not completed their secondary school due to the mass exodus of the economic active labour to the neighbouring countries. This has caused distractions to most school going age children" (KII, District health officer)*

The health practitioners expressed concerns over the situation in Tsholotsho. They indicated that during the times of food distributions from World Vision some of the people had difficulties following the recipes when cooking the different foods. The district health officer expressed concerns over the level of illiteracy and ignorance in the majority of people living in Tsholotsho. He indicated that this has adverse effect especially on people living with HIV/AIDS who need to cook and buy nutritious food. He indicated that some people make bad choices when buying food because of illiteracy and this affects their physical health. He added that some people spend money on sweets, fizzy drinks, chocolates and fried chips

which do not add any nutritional value to their bodies due to misconceptions of their nutritional value.

Female respondents living with HIV/AIDS indicated that gender inequalities impacted negatively on their health. The females reported that gender inequalities impacted negatively on their lives because of the traditional value system that is followed in Zimbabwe especially in rural areas. In rural areas like Tsholotsho, the women are subjects to man. They should submit to the demands of their husbands even if it inconvenienced them. One of the female respondents stated that her husband was an immigrant in South Africa where he cohabits with another woman. The respondent reported that her husband was no longer supporting her and the children. When she raised her problems to her in-laws they indicated that it is normal for men to have extra marital affairs and she should remain in her marriage. A few years after her husband started cohabiting in South Africa, she claimed that she contracted HIV from her husband. Women experiencing problems in their marriages reported that they found it difficult to return to their families of birth because culturally it is not acceptable. As a result, most stay in dysfunctional marriages which usually end up with them contracting HIV/AIDS. Such problems are illustrated in the responses below with respect to challenges experienced by HIV/AIDS patients on HAART;

> *―As a woman I am expected to provide care for the rest of family regardless of my health demands. I carry most of the family health burdens that may sometimes infringe on my health. Sometimes when food is not enough for the rest of the family to partake, culturally, as a woman we feed everyone and I remain hungry even though I am supposed to be the one who is being looked after".(FGD, Brenda, 30 years)*

> *In addition to the fact that I was not performing very well at school my parents decided I should stay behind at home. In trying to find my own freedom, l got married at a very young age which then contributed to my chances of contracting HIV. My husband migrated to South Africa and he deserted me and the children. Due to lack of skills I face increased challenges in acquiring the required nutrition because I lack manpower to till the land". (FGD, Nomsa, 27 years).*

> *"I am not able to attain my nutritional requirements mainly because I am not financially stable. There are very few economic opportunities that I can engage in because I never had an opportunity to go to attend school. My parents withdrew me*

from school because I had to help my mother look after my siblings. At the moment I have children that are fatherless because I got impregnated by different men and on top of that became infected by HIV/AIDS. I normally do some piece jobs in the homes of those who are more privileged in payment of food and second hand clothing. I am the bread winner and have children that are heavily dependent on me for their upkeep" (IDI, Zanele, 38 years).

The above quotes show that living with HIV/AIDS has worse challenges for women compared to men with culture playing a central role.

4.6 Indigenous versus western diets

Global changes in food consumption patterns have impacted badly on the diets of people living HIV/AIDS in Tsholotsho. Partly due to economic problems in Zimbabwe, and erratic rainfalls during the planting seasons beginning in the year 2001, the local food industry has been dominated by imported food products from countries where genetically modified food is produced. As a result, all the respondents indicated that their diets had largely been westernised. The respondents showed awareness that western food consists more of refined food with less nutritional value compared to their traditional foods. They further indicated comfort in accepting refined foods because they are usually cheaper than locally produced organic equivalence. However, some of the respondents expressed concern that the government banned the importation of genetically modified foods although they indicated that they would be fully supportive of the policy if there were sufficient and affordable local products. However, despite the ban, most people still consume imported foods. The following quotes illustrate how the respondents felt with their current consumption patterns:

"I sometimes receive groceries from South Africa and it comprises refined foods only. Although it is not sufficient to last the whole month, it helps me a lot. I feel compelled to eat the western food because indigenous foods are not readily available. We are encouraged to eat indigenous dishes by the nurses but there's nothing we can do when such foods are beyond our reach. During the rainy season it is better. I know that refined foods are not good for someone in my health state" (IDI, Thando, 38 years)

He added

"Well, we are mostly eating these refined western foods. They are more readily accessible and easy to prepare, and they taste good. In this community we have tended to think that the western foods represent being advanced. So when I get money for groceries, I tend to buy the refined foods partly because they characterise our consumption patterns although they are not healthy. Some people refuse to continue eating traditional meals as due to the fact that they over eaten during times of hunger and starvation" (IDI, Thando, 38 years).

The western-indigenous foods conundrum expressed by some of the respondents was also highlighted by one of the nurses working in Tsholotsho area. The nurse stated that health practitioners encourage patients to consume indigenous foods but, most are consuming refined western foods. The social cognitive theory used in this study states that people do not learn new behaviours purely by trying them and either succeeding or failing, but the survival of humanity is dependent upon the replication of the actions of others. Furthermore, the media continues to play a pivotal role in providing models for a number of people living in different environmental settings. Most of the people are influenced by what the media is advocating to be good. They follow what the celebrities are eating, wearing and saying and take that as their role model, which becomes their lifestyle. The study observed that people residing in Tsholotsho had more preference for the western diet compared to traditional meals. This clearly indicates that Tsholotsho was also evolving their diet like the rest of the world. They are imitating what the rest of the globe is following rather than maintaining their traditional diet which is healthier for people living with HIV/AIDS.

"Changes in the diet have largely affected the people living with HIV in Tsholotsho. We are working very hard to ensure that people living with HIV stick to the locally available diet because it is economical and at the same time highly nutritious. We try to discourage people living with HIV to rely on refined food because it is less nutritional" (KII, Nurse 2)

With respect to indigenous diet, the respondents indicated that they relied mostly on wild fruits as they could not afford buying the exotic fruits. All of the respondents indicated that they relied mostly on gathering wild vegetables such as mushroom and wild plants. Mushrooms are vegetables which spring out from the ground naturally after a rainfall and are

very rich in proteins. They claimed that they competed with wild animals because the wild fruits are limited because everyone is relying on those fruits.

> *"I normally gather wild fruits and animals from the bushes. We also gather firewood as a source of fuel. We gather wild vegetables such as mushrooms, green leaves, pumpkin leaves and wild fruits such as uxakuxaku, umtshwankela, umviyo, umnyi and marula fruit. These fruits were used as a buffer against hunger during the dry season. We have a way of preserving these fruits so that they can be consumed later during the year. However, there are wild animals such as elephants, buffaloes and giraffes which also consume the wild fruits" (IDI, Vuyo, 34 years)*

> *"I normally gather wild fruits and vegetables from the veld. These are usually available in the autumn season, and are dried and preserved for use later during the year. However, it depends on the availability of rain because these fruits rely on a good supply of water. We do not have electricity so we use firewood. These fruits are not usually available during dry seasons, but if they are available we gather them. However, some of the fruits have become scarce due to deforestation as people are destroying the veld for firewood (IDI, Dumisani, 32 years)*

4.7 Summary

This chapter presented the results of the in-depth interviews and focus group discussions conducted among five men and five women and three health practitioners in Tsholotsho, Zimbabwe. The results showed that the economic situation of Zimbabwe coupled with the shortage of rainfalls during planting seasons have led to challenging experiences among HIV/AIDS patients. Unemployment, restrictions on food imports and relocation of NGOs were some of the factors leading to respondents experiencing challenges in their everyday lives particularly in terms of access to relevant nutrition. Other factors highlighted by the key informants and focus groups were low levels of educational attainment that contribute to the challenges being faced. Respondents largely dealt with challenges by reducing number of meals per day, receiving assistance from community well-wishers and relatives working in South Africa and Botswana. The chapter showed that respondents expressed awareness of nutritional value of indigenous foods as compared to western refined foods although the majority reported having diets consisting of largely refined foods. The results obtained were in line with what was being echoed by the theoretical framework guiding the study. Firstly

the study found that the economic challenges coupled with the ripple effects of HIV/AIDS which has led to the dissolution of safety nets. Therefore outlining the poor relations that the government had with its suffering citizens and also indicated that Tsholotsho has a very weak culture which never trained its individuals to be entrepreneurs. Furthermore, the study found that the Tsholotsho residents had developed new preferences on food consumption patterns. This is clearly stated by the social cognitive theory that individual replicate the actions of others and in this case the residents were following the media that promoted consumption of refined meals. This remains unknown to the Tsholotsho residents that they are trading in their healthy nutritious meals for less nutritious meals which are seen as more prestigious. .

CHAPTER 5: DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5. 1 Introduction

According to Prüss et al. (2014) the HIV/AIDS prevalence rates in Zimbabwe have declined, at the rate of 18.1 per cent. It remains one of the highest in the world. The sharp decline in the country's population growth since the 1980s largely reflects the impact of the epidemic. Rural poverty has become a common thing in Zimbabwe, and it affects the diet of the normal Zimbabwean living in rural areas, consequently impacting negatively on people living with HIV/AIDS. People living with HIV/AIDS often find themselves unable to acquire the required diet. With the rise in unemployment rate and constant frequent male migration away from rural areas, households headed by women are increasingly common. These households are nearly always the most disadvantaged and always lack basic commodities. .

Lack of adequate nutrition has been studied in Zimbabwe, but research on how people living with HIV/AIDS in Tsholotsho has been not been explored. Tsholotsho falls under Matabeleland North which has the highest poverty rate in the country, with 70 percent of its inhabitants classified as poor or extremely poor. The overall aim of the study was to explore the experiences of people living with HIV/AIDS in Tsholotsho, Zimbabwe with regard to accessing of a nutritious diet. The study attempts to ascertain some of the nutritional challenges faced by people on HIV treatment. The study suggested that the economic situation facing people living with HIV/AIDS in Tsholotsho has impacted negatively on their ability to obtain a balanced diet.

Most studies have been focusing mostly on people acquiring the HAART treatment, but this study focuses on the two aspects; HAART and of nutrition. The study draws from qualitative research methods to explore these objectives. In-depth interviews, key informant interviews and focus groups were used to gather information on individual experiences on nutritional challenges faced by people living with HIV/AIDS. However, qualitative research methods have limitations but it has the advantages of producing detailed data. The study draws from the conceptual framework developed by Airhihenbuwa (1992) to explore the experiences of people living with HIV/AIDS.

According to Deng et al., (2009) many people living with HIV/AIDS in rural China were poor and lacked sufficient protein in their diet. This study indicated that the Zimbabwean economic situation coupled with shortages of rainfall during planting season have led to

challenging experiences among HIV/AIDS patients. Other factors such as relocations of NGOs which subsidised the diet of people living with HIV/AIDS were reported as the greatest challenges. Respondents also highlighted that unemployment; import restrictions and removal of NGOs was a barrier to improving the diet of ordinary people in the country. Some of the respondents however, indicated that they received remittances from relatives working abroad. They also expressed concerns over the fluctuating exchange rate which was a great barrier for people living with HIV/AIDS. The study observed that most of the respondents lacked a personal income.

Thapa et al. (2015) suggest that various demographic variables, age, gender, ethnicity, religion and occupation were found to have no significant association with nutritional status of the people living with HIV. Education status was significantly associated with the nutritional status of people living with HIV/AIDS. The sample of the study found low levels of education among people living with HIV/AIDS. Few had more than a few years of schooling. The respondents indicated that they were receiving a maximum of 2 meals per day with the exception during the harvest time. The respondents indicated that food from the fields was their main source of survival and it composed of their staple food. However, the respondents indicated that there was no meal planning at all, due to unavailability of food. Families tended to cook what was available at that moment and were living their lives one day at a time.

According to Frayne (2005) global changes in food consumption patterns had impacted badly on the healthy eating habits especially in the developing countries. Consumption of the old traditional menus is no longer considered by many people who have been made to believe that fast foods are the best food to consume regardless of the nutritional contents. This study reflected that the consumption patterns were slowly becoming westernized. They claimed that they had access to what was happening in the global village, and this included the change of the consumption patterns in line with world standards. The respondents claimed that the traditional diet was threatened by the rapid pace of modernization was taking place in Tsholotsho. The respondents also indicated that they relied on wild fruits and vegetables as they could not afford to buy the exotic fruits.

They indicated that the traditional dishes consumed by the forefathers were nutritious and were used for healthy purposes. Some of the respondents indicated that in the olden days there was no disease which could not be treated, because people ate healthy traditional diets.

The respondents also claimed that there was a challenge that was being faced because of modernization. Some of the respondents especially the elderly people of the Tsholotsho community revealed that modernization was a major challenge in ensuring that traditional meals are being maintained. However, most of the respondents indicated that following a traditional diet had double benefits for them, healing properties that were contained by certain meals. Additionally, the traditional meals were normally available within the local environment and it was accessible. They expressed concerns that the modern diet contained less nutritional values as it mostly consisted of processed food. However, the respondents were worried about the fact that Tsholotsho was becoming a modernized community with modern infrastructure as a result this had led to a more modernized lifestyles. The cultural food was regarded as the most nutritious diet when compared to the westernized diet.

According to Nyamongo & Ezeh (2005), community safety nets were better developed in countries such as Uganda and Tanzania, and were weaker in other countries such as South Africa. This study obtained that due to lack of safety nets the family safety nets were no longer reliable as it had developed some holes but the community safety nests were very effective. Most of the respondents indicated that the community safety nets were the most reliable safety nets. They claimed that their neighbours were always supportive towards them compared to their kinsmen.

Talman et al. (2013) outlines that vulnerable households gathered wild fruits (plants), animals, water, fuel wood, traditional medicinal products, timber, and raw materials for craft making. This study found that the respondents relied on dried fruits and vegetables during the dry season. The dried vegetables will have lost the Vitamin C element during time as it is being preserved. Some of the respondents indicated that if they did not dry enough vegetables they could have pap without relish or with sugar or salt as the relish. However, the respondents indicated that they relied heavily on the crops from the fields. Some of the respondents indicated that they received groceries from Botswana and South Africa that's when they will have a variety of meals ranging from macaroni, spaghetti, fresh fruits such as oranges and apples depending on the ones which are on season. From the population sample that was selected less than half of the representatives claimed to be receiving groceries and were relying on the natural environment for their food supply.

Finally, the study found that the people living with HIV/AIDS managed to cope with harsh economic conditions by reducing their food uptake to twice a day and by skipping the treatment when food was not available.

5.2 Recommendations

Acquiring adequate nutrition is the greatest need for people living with HIV/AIDS (WHO & Consultation, 2003; Mahlungulu et al. 2008 and Friis, 2006). Studies have indicated that HIV infection is often associated with poor nutrition due to many factors such as increased energy needs, decreased appetite, symptoms of HIV or opportunistic infections that may lead to swallowing difficulties, as well as environmental factors such as inaccessibility of food. Success in combating nutritional challenges needs a combined effort of the health care practitioners to take corrective measures to assess the nutritional requirements.

Nebeker et al., (2006) recommended that weight loss and wasting are the leading factors that affect HIV progression. Studies have indicated that low body mass index is an independent predictor of mortality in people living with HIV/AIDS (Paton, 2006;Van der Sande et al., 2004). Studies conducted at Gambia indicated that a BMI (body mass index) of 18 – 20 were associated with a two fold increase of risk mortality, while BMIs of 16 – 18 and below 16 were associated with fivefold and eight fold increases respectively. The acceptable range of BMI index for adults was 18.5 to 24.9, and for the children it varies with age. According to Stringer et al. (2006) the presence of severe malnutrition which was below BMI of 16 was associated with a two fold increase of risk of death among the people living with HIV on antiretroviral therapy.

The study also indicated that beyond the basic nutrition, many drugs for treatment of HIV related infections needs to be taken with food, and for some drugs, interactions with food need to be considered. WHO, 2005; Friis, 2006; Fawzi et al. 2004; Saadeh et al. 2005 and Mahlungulu et al. 2005) recommended that evidence based nutrition intervention should be part of all HIV care and treatment programmes. Often the health practitioners do not perform the entire body checks especially in areas of less resources such as checking of cholesterol levels of the blood, Body Mass Index due to lack of resources. Health- care providers need to measure the person's weight and weight change, height, BMI, and mid- upper arm circumference. Additionally, the health practitioners should evaluate the patients for

individual and household food security. They just recommend the similar diet to every patient who is on HAART treatment regardless of the different nutritional requirements.

Furthermore, it can argued that the people living with HIV/ AIDS and are on antiretroviral therapy without the means to meet their basic dietary needs should be given food and helped to achieve food security by providing income or other livelihood assistance. If possible, people living with HIV need to be assisted by the several stakeholders such as government, and private corporations to attain food security. Mangili et al. (2006) also recommends providing supplementary feeding for mild to moderately malnourished adults with a low BMI of less than 18.5, regardless of HIV status. The study suggests that the most affordable cheapest supplementary food were micronutrient fortified, blended flour that can be prepared as porridge. Whereas, the severely malnourished adult patients who have less than a BMI of less than 16 should be provided with therapeutic food that is formulated to be nutritionally equivalent to the therapeutic F100 milk. Therapeutic feeding should be continued until the patient's BMI is stabilized above 16 or 16 – 18.5 for two to three consecutive months.

In the United States and Europe, daily multi vitamin supplementations have been recommended, despite limited specific evidence to support this practice, or as prophylactic approach for any disease. A randomized trial that were conducted in United States, Thailand, and Tanzania had reported associations between multi vitamin supplementation and improvements in immunologic and clinical status of people living with HIV/AIDS. More so, people living with HIV need to take daily allowances of micronutrients through consumption of diversified diets, fortified foods and micronutrients as needed. Support structures must be in place to ensure that people living with HIV/AIDS obtain vitamin supplements from the clinics in order to improve their immune systems. The government might also consider spending some money obtained from the AIDS Levy which is paid by every individual working in Zimbabwe.

In trying to help the people living with HIV/AIDS the government may have to revive the social welfare department and provide grants to support the people living with HIV who cannot afford a nutritious diet. This will enable the people living with HIV/AIDS on antiretroviral treatment to meet their basic needs. Providing social grants, will help to reduce chances of hunger and starvation which are major challenges faced by people living with HIV/AIDS on antiretroviral therapy. Additionally, the government could invest in machinery used to collect information relating to body weight, height, and cholesterol as well as blood

sugar levels. Additionally, the government should invest in improving the health sector and train doctors on the usage of these as it will greatly assist in the computation of the different nutritional needs of the people living with HIV/AIDS.

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APPENDIX I

Questionnaires Data Collection Instrument

Section A

1. What is your sex?

   Female ☐ Male ☐

   Ubilili bakho?

   Ngowesifazane ☐ Ngowesilisa ☐

2. What is your age?

   Uleminyaka emingakanani?

3. What is your marital status?

   Single Married

   Utshadile noma awutshadanga?

4. How long have you been on treatment?

   Ulesikhathi esinganani uthola umuthi wokwelapha?

5. Does your family know that you are on treatment?

   Imuli yakho iyazi ukuthi uyathatha imithi yokwelapha na?

Section B

1. Do you have access to the recommended diet that you should follow?

   Uyakwazi yini ukukuthola lokho kudla?

2. What support do you acquire from family with regard to maintaining healthy eating plan?

   Imuli yakho iyakuncedisa yini ukuthi othole ukudla okudingakalayo

3. Who shops and prepares meals for you? Do you like their food choices? Yes/ No. And how knowledgeable about your nutritional needs? Explain your answer?

   Ngubani okuthengelayo ukudla okudlayo, lokuphekelayo?

4. Do you have food diversity in your meals? Yes/No. Explain how?

   Uyakuthola ukudla okwehlukeneyo yini? Chasisa impendulo yakho?

5. What are your cultural food preferences and practices? Follow up: Do you think it is healthy?

   Yikuphi ukudla elikujwayeleyo ukukudla ngesintu sakini? Ucabanga ukuthi kuyaqinisa umzimba yini?

6. If someone else prepares food do they alternate different methods of cooking in order to make the food appetising to you?

   Abakuphekelayo bayantshintshantsha indlela ophekangayo ukuze benze ukudla kubemnandi nxa ukudla?

7. What is your main source of income?

   Imali uyithol;a ngaphi eyokuphila?

8. How many meals do you have per day?

   Ukuthola kangaki ukudla ngosuku?

9. Ever since you fell sick, did it affect the food consumption patterns of your family? Yes /No. Explain further the effects?

   Lokhe lagulayo, ukudla ebelikudla kwaguqula yini indlela imuli yenu edla ngayo? Yebo/ Hatshi. Nxa kungu yebo, ngicela lingichasisele kabanzi?

10. Briefly explain the role played by your friends, family, religious groups and peer groups in ensuring that you follow a nutritious diet?
    Ungatsho nagamafitshane ukubana umdeni, abangani lamasonto akusekelela kanjani ekubeni udle ukudla ukwakha umzimba?

11. What role is played by the health centres, community centres and primary schools to to ensure that you follow a nutritious diet?

    Ezibhedlela, ezikolweni ungatsho kabanzi ukubana ikusuzisa ngaphi ekubeni udle ukudla ukwakha umzimba? Chasisa kabanzi ngendima abayidlalayo?

12. Do you think economic marginalisation affect your household's ability to acquire nutritious diet? To what extent does it inhibit you from attaining the recommended diet?

    Ukuswelakala komnotho endaweni yaseTsholotsho ingabe uyakuvimbela na ukubana uthole ukudla lomdeni wakho?

13. Are you aware of the recommended diet that you must follow? To what extent are you able to consider the nutritional labels when buying groceries?

    Ulolwazi lokudla okumele ukudle lokungamelanga ukudle na? Nxa uthenga ukudla uyakukhangela ukuthi kulawo amanutrients adingwa ngumzimba wakho?

14. What is are the gender norms of Tsholotsho and what is the status of women in this society? Do these affect women on how they attain nutritious diets?

Yiwaphi amasiko alandelwayo kuleyi indawo, njalo umama bakhalelwa njengabantu abanjani kulesisigaba? Indlela abakhangelelwa ngayo ingabavimbela ukuthola ukudla ukwakha imizimba na?

15. Did you disclose your status to your family? Did it lead to support or rejection by your family members? To what extent does your immediate and extended families support you to remain healthy?

Amalunga omdeni wakho ayakwazi ukubana uphila lomkhuhlane yini? Uyaluthola usizo na? Kukangaki uthola usizo oluvela kumalunga omdeni wakho ekubeni uthole ukudla okulungele umzimba wakho?

16. What are the some of the challenges that you face due to unemployment in acquiring a balanced diet?

Yibuphi ubunzima ohlangana labo ngenxa yokuswelakala komsebenzi ekubeni uthole ukudla okwakha umzimba?

19. Do you receive food assistance? Yes/No (If yes answer Question 20, 21 and 22) If no leave unanswered.

Uyathola yini uncedo lokudla.Yebo/ Hatshi. Nxa kunjalo qhubeka uphendula imibuzo

20,21 lo22 Nxa ungatholi ungayiphenduli

20. How often do you receive the food assistance?

Ukuthola kangaki lokho ukudla?

21. What is contained in the food basket that you receive?

Kuyabekulani phakathi kwalokho kudla?

22. How long does the food last? If it gets depleted before you receive the next allocation how does the family survive?

Kuhlala okwesikhathi esinganani lokho kudla njalo kungaphela phakathi kwesikhathi liyenza njani ukuthola okokudla?

23. Do you usually have food to take along with your medication? Yes/ No. If No explain how the HAART treatment drugs are taken?

Uyakuthola yini okokudla ukuze unathe amaphilisi ngesikhathi? Chasisa indlela othatha ngawo amaphilisi nxa kukhona loba kungekho?

16. Have you ever taken treatment on an empty stomach in the event you could not access food? Yes/No. If yes explain further

Wake wanatha amaphilisi ungadlanga lutho? Chasisa impendulo yakho?

17. Which diet is followed by the community? Do you feel compelled to follow the consumption patterns?

Yikuphi ukudla okuthandwa ngabantu abanengi esigabeni? Uyafisa ukukudla lawe na?

15 January 2014

Ms N Moyo (212558212)
School of Built Environment and Development Studies
Howard College Campus

Protocol reference number: HSS/0922/013M
Project title: Nutrition in the era of Highly Active Antiretroviral Therapy (HAART): A case study of people living with HIV in Tsholotsho, Zimbabwe

Dear Ms Moyo,

FULL APPROVAL NOTIFICATION – COMMITTEE REVIEWED PROTOCOL

This letter serves to notify you that your response to our letter dated 08 October 2013 was reviewed by the Humanities & Social Sciences Research Ethics Committee, and has now been granted **Full Approval**.

Any alterations to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach/Methods must be reviewed and approved through an amendment /modification prior to its implementation. Please quote the above reference number for all queries relating to this study. PLEASE NOTE: Research data should be securely stored in the school/department for a period of 5 years.

Best wishes for the successful completion of your research protocol

Yours faithfully

Dr Shenuka Singh (Chair)
Humanities & Social Sciences Research Ethics Committee

/ms

cc Supervisor: Professor Pranitha Moodley
cc Academic Leader Research: Professor MP Sithole
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APPENDIX III

UKZN Humanities and Social Sciences Research Ethics Committee (HSSREC)

APPLICATION FOR ETHICS APPROVAL

For research with human participants .

Information sheet and consent to participate in the Research

Date: 21/07/2015

Greetings to you, hope you are doing well. My name is Nobuhle Moyo from the School of Built Environment and Development Studies. University of KwaZulu-Natal Howard College, Durban. Cell: 073 302 153.Email nobuhlemoyo05@gmail.com or 212558212@stu.ukzn.ac.za I am doing research on a project entitled 'Nutrition in the era of Highly Active Antiretroviral Therapy (HAART.

You are being invited to consider participating in the study that it involves research finding out the nutritional challenges faced by people living with HIV/AIDS. The main purposes of this study the challenges that are faced by people living with HIV/AIDS in resource limited areas such as Tsholotsho. It will involve the following procedures, focus groups and personal interviews. The study is expected to enrol 10 participants who are living with HIV/AIDS and one District Aids Councillor, two District Nursing officers and one representative from the Non- Governmental Organisations operating in the Nkunzi area in Tsholotsho. The duration of your participation if you choose to enrol and remain in the study is expected to be for maximum of 60 minutes.

The study may involve the following risks for further stigmatisation of the participants. However, this study will not provide direct benefits to the participants but it will address the issue to be incorporated by policy at a national level. The study will also provide clinical counselling to the participants to better prepare them for the challenges that they might face as a result of participating in the study. The counselling will be provided by professional counsellors working in the Tsholotsho clinic.

In the event of any problems concerns or questions you may contact the researcher at number 4693 Gwabalanda. P.O Luveve Bulawayo or UKZN Humanities and Social Sciences Research Ethics Committee, contact details as follows:

Humanities & Social Sciences Research Office,

Westville Campus

Govan Mbeki Building

Private Bag X 54001

Durban

4000

KwaZulu Natal, South Africa

Tel:27 31 2604557 – Fax: 27 31 260

Email: HSSREC@ukzn.ac.za

Participation in this study is voluntary and participants may withdraw from the study any time, and that in the event of refusal / withdrawal of participation the participants will not incur penalty or loss of treatment or other benefits which they are normally entitled to. There will be no consequences that will be attached if the participant wishes to withdraw from the study. If the participant wishes to withdraw from the study, they just indicate their disinterest in the continuation of the study. Verbal communication will be acceptable to exclude any participant who wishes to withdraw from the study. The researchers will only, terminate the participant if they indicate their disinterest in the continuation of being a participant.

There are no costs that are going to be incurred by the participants as a result of participating in the study. The participants will be given each food hampers worth R100 each as a sign of gratitude for the participation in the study. The reason why the participants will receive the food hamper because it is in culture of Africans (Ubuntu) to show appreciation to a person who has helped. As well as that there is hunger in Tsholotsho, so the participants will be compensated for their efforts to participate in the study.

The steps that will be taken to protect the confidentiality of the data obtained will be as follows. The recording will be destroyed as soon as the dissertation has been accepted. The transcript, without disguised name, will be kept until the research is complete. The key code linking factious names will be kept in a locked file cabinet in a locked office, and no one else will have access to it. It will be destroyed after 5 years after the department has verified the

findings. The data obtained will be used for explaining the nutritional challenges faced by people living with HIV/AIDS in the era of HAART and may be used as the basis for articles or presentations in the future

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…………………………………………………

Consent

I (name) ………………….have been informed about the study entitled 'Nutrition in the era of Highly Active Antiretroviral Therapy (HAART): A case study of people living with HIV in Tsholotsho, Zimbabwe' by Nobuhle Moyo.

I understand the purpose and the procedures of the study of participating in in-depth interviews and focus groups.

I have been given an opportunity to answer questions about the study and have answered to my satisfaction.

I declare that my participation in this study is entirely voluntary and that l may withdraw anytime without affecting any of the benefits that l am usually entitled to.

I have been informed about the availability of counselling services that will be provided in case of any trauma occur to me as a result of study related procedures.

If l have further questions or concerns /queries related to the study, l understand that l may contact the researcher at 4693 Gwabalanda. P.O Luveve Bulawayo and cell number: +263 712 910 951.

If l have questions or concerns about my rights as a study participant, or if l am concerned about an aspect of the study or the researchers then l may contact:

Humanities & Social Sciences Research Office,

Westville Campus

Govan Mbeki Building

Private Bag X 54001

Durban

4000

KwaZulu Natal, South Africa

Tel: 27 31 2604557 – Fax : 27 31 260

Email: HSSREC@ukzn.ac.za

Additional consent, where applicable

I hear by provide consent to:

Audio record my interview/ focus groups YES/ NO

Video record my interview/focus groups YES/ NO

Use of my photographs for research YES/NO

……………………………………. ……………………………….

Signature of participant Date

………………………………….. ………………………………..

Signature of witness Date

………………………………….. ………………………………….

Signature of Translated Date