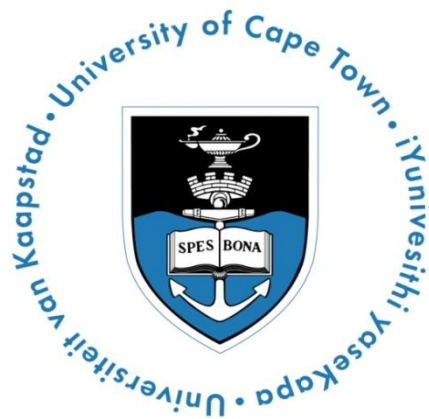


EXPLORING AND UNDERSTANDING HOW WOMEN LIVING WITH
HIV/AIDS ON ANTIRETROVIRAL DRUGS -: ACCESS AND UTILIZE FOOD
IN HARARE ZIMBABWE

HONOURS RESEARCH REPORT



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MCHRUM002

ABSTRACT:

The research explored and examined the extent to which women who were living with HIV/AIDS understood their nutritional requirements in relation to their health status and how these women attempted to meet these requirements in regards to access and utilization of food. This project explores the knowledge that these women have in regards to their nutritional status, sources of information, fulfilment of the nutrition, inconsistencies in their nutritional requirements and lastly strategies that they use in order to access food. The results showed that these women had little understanding of what their nutritional needs were. This is because the information they got from their sources did not adequately translate into the types of foods that made up the typical diet of these women. The knowledge gap and challenges of access to food meant that food security was compromised. They considered traditional foods to be the best foods because they were natural and cheap, making them easily accessible. Urban gardens played a major role in securing these women with food and nutrients. The results of this study show that the way food security is defined by (FAO, 1996), is not the same way these women define food security. They stated that food security existed when one went to bed on a full stomach at all times. Semi structured interviews were used in order to qualitatively investigate the ability of HIV positive women on antiretroviral drugs (ARVs) to meet their nutritional requirements consistent with their treatment and care plans. Their ages ranged from 18-50 years.

INTRODUCTION:

Food security is integral to maintaining good health and particularly important with reference to HIV/AIDS. According to the World Food Summit that was held in 1996, food security exists “*when all people at all times have access to sufficient, safe, nutritious food to maintain a healthy and active life*” (WHO, 1996). This definition comprises of three main dimensions of food supplies: availability, access and utilization. HIV/AIDS pandemic has greatly affected food security. The linkage between HIV/AIDS and food security is bi-directional. Firstly, HIV/AIDS can increase the vulnerability of individuals to food insecurity and secondly, food insecurity can increase the risk of an individual who is affected with the disease or virus (Reliefweb, 2004).

Zimbabwe is one of the countries hardest hit by the HIV/AIDS pandemic with an infection rate of 15.3% and approximately 1.3 million (2007 est.) people are living with HIV/AIDS (www.cia.gov). The burden of the disease falls more heavily on urban poor communities than the middle and upper income communities. People living with HIV/AIDS, especially women in this country are finding it difficult to access food that is nutritional and adequate to their health status. This is because food is not available on a consistent basis, due to factors such as affordability (www.avert.org). The project argues that a further barrier to adequate nutrition for HIV infected individuals is a limited understanding of dietary requirements. This is a result of the interplay between accessibility and utilization factors, people living with HIV/AIDS are not able to be food secure. These women who are living with HIV/AIDS are face problems in trying to meet two of the three dimensions of food security which are, accessibility and utilization of food.

Rationale:

Zimbabwe, with some other African countries faces high levels of food insecurity and HIV/AIDS prevalence (SAFANS 2007). It has been hypothesized that the increase in food insecurity leads to the increase of HIV/AIDS burden on the households of the infected and affected. For this reason it becomes difficult for these individuals to be food secure which is to have food *available* at all times, to have *access* to food and food utilization. Thus the research aimed to investigate the ability of HIV positive women on antiretroviral drugs (ARVs) to meet their nutritional requirements consistent with their treatment and care plans.

The study of nutrition and food adequacy amongst women living with HIV/AIDS has been selected as a topic of study. This is because women are more susceptible to HIV/AIDS infection as compared to men. Women have prolonged exposure to infected male secretions and the immunological differences between man and women (Ray et al., 2000; Bere et al., 2009). Cultural, economic and social inequalities of the status of women in the society are further intensified by the HIV/AIDS. Hence women are more vulnerable to HIV/AIDS as compared to men. In simple women are socially biologically and economically and vulnerable to HIV/AIDS as compared to men. Furthermore, women are involved in purchasing, producing and preparing of food WFP (2008). According to the WFP (2008) *“when a woman is HIV-positive, household food security is impacted, as these responsibilities shift to younger, more inexperienced women in the home”*.

Research aims and objectives

The research aimed to investigate the ability of HIV positive women on antiretrovirals (ARVs) to meet their nutritional requirements consistent with their treatment and care plans.

Specifically the research sought to:

1. Explore the extent to which the women understood their nutritional requirements in relation to their health status
2. Examine how the women attempted to meet these requirements in regards to access and utilization

LITERATURE REVIEW:

Introduction

This project is grounded in the literature pertaining food security and its connection to HIV/AIDS. It therefore uses the USAID's expanded Conceptual Framework for understanding food insecurity as its conceptual framework.

The Food and Agriculture Organisation (FAO) of the United Nations (1996) stated that food security existed "*when all people at all times have access to sufficient, safe, nutritious food to maintain a healthy active life*". The above mentioned definition, illustrates that food security has three key dimensions, which are *availability, access and utilization*.

Key debates shaping the development of food security

Food security research gained prominence in the 1970s, after the global food crisis that of 1972-1974. The research's main focus was to explore the causes that led to the food crisis and the solutions thereafter (Baker 2000). Chisholm and Tyres (1982) argued that food insecurity crisis was a short term problem that was a result of international and national decrease in food production and an increase in food prices. According to the FAO (2005) food insecurity caused by structural problems is referred to as chronic food insecurity. Hence to solve chronic food insecurity, production of food had to be increased at international and national level and food prices had to be stabilized, this was a way to increase per capita food supplies.

Therefore, it shifted the focus of food security research to the household and individual level. However, as Sen and others began to note famine and food insecurity were not simply caused by structural adjustment and other macro-scale structural issues, but by the eroding of people's entitlements. These entitlements were "*Trade base entitlements*"- power to buy food; "*Production based*"- one's ability to grow food; "*Own labour*"- working for food; and lastly "*Inheritance and transfer*"- receiving food as remittances (Devereux 2001)

In the 1990s attention was focused on the relationship between food security and human development. This led to the definition of food security to have three dimensions which were *availability*, *prices* and *nutrient security*. This definition suggested that food security existed if one had land to grow his/her food or if one had purchase power (enough income) to buy food. Therefore the World Bank (1990) argued that food security could be attained if there is an increase in people's incomes.

Recent theorists argued that food security has three components which are *availability*, *accessibility* and *utilization*. Furthermore, these theorists realised that food security was, multi-casual, multi-sectoral and multifaceted. They identified that food security was not only a rural problem but to a certain extent an urban problem too, they also realised that increase in food production at national level was not the solution. Issues such as "*decreased urban welfare programs*", "*increased urban population*", and "*decreasing urban employment*" were some components that affected supply, access, and utilization of food by individuals (Atkinson 1995).

It has taken considerable time to redirect the issue of food security from the macro level to household level and finally to towards an individual's level. Food security has become common, yet the definitions of food security vary. This project uses the FAO 1996 definition of food security.

Key determinants of food security

This section highlights the three key determinants of food security in the context of HIV/AIDS.

Food availability;

Food availability formulates from agriculture output (domestic) and food imports on a national level. With the case of HIV/AIDS, the availability of food is undermined by production failures which are a result of labour constrain, loss of productive assets that are essential to sustain a household and gender inequalities.

Food access;

This is the households' ability to purchase food from market places and other sources e.g. gifts, transfers etc. Access of food depends on one's purchasing power; this tends to vary in relation to factors such as price policies, market integration and temporal market conditions. In HIV's context, the infected individuals and affected households maybe overburdened or seriously ill to source income that will buy food and fear of stigma can make these individuals have limited access to markets, community networks and trade associations (www.ec.europa.eu).

Food utilization;

“Food utilization is determined by food safety and quality, how much a person eats and how well a person converts food to energy, all of which affect proper biological use of food, nutritional status and growth” (www.ec.europa.eu). For one to adequately utilize food a diet that provides essential nutrients, enough energy is essential. Other factors such as adequate sanitation, portable water, “proper feeding practices, illness management” and “access to health services” are also required. In the context of HIV/AIDS, the way household members utilize food can be compromised by the need of high energy requirements caused by the virus, effects of opportunistic infections and being susceptible to water and food borne infections REF.

This report is going to focus on food access and food utilization because these two components form this paper.

Food security and HIV/AIDS

Literature by Tang et al. (2002), Woods, (2007) and WHO (2005) and Heikens et al., (2008), states that people with HIV/AIDS are immuno-compromised. Therefore they are more likely to fall ill than HIV negative individuals exposed to the same diseases and infections.

According to www.ec.europa.eu article the relationship between HIV/AIDS and food security is bi-directional in nature and it depends on a number of factors. The relationship between HIV/AIDS and food security depends on a number of factors which include: the demographic structure of a household, gender of the head of household, time of illness, resources available to the household, social networks, number of people infected in the household, and the household's income (www.ec.europa.eu).

HIV/AIDS is an epidemic that can also be referred to as a shock that affects all components of a household. Shocks such as civil conflicts or droughts are considered to be temporary shocks which at some point alter food production of a household until the situation becomes normal (de Waal and Whiteside 2003). However, in the context of HIV/AIDS shocks to livelihood and food security, if these two are affected by HIV/AIDS they are not guaranteed a quick return to normalcy. Furthermore, HIV/AIDS impacts the households' food security because the infected individual's nutritional requirements are increased by the disease, which then widens "*the gap between food needs and food access*" (UNAIDS/UN RIACSO, 2002).

The relationship between food insecurity and HIV/AIDS has brought about an increasingly vicious cycle. The vicious cycle in Figure 1.1 indicates that food insecurity increases susceptibility to HIV infection and exposure, and vulnerability to food insecurity is heightened by HIV (Loevinsohn and Gillespie, 2003). The cycle is reinforced by these factors (Semba and Tang, 1999).

Malnutrition - AIDS Vicious Cycle

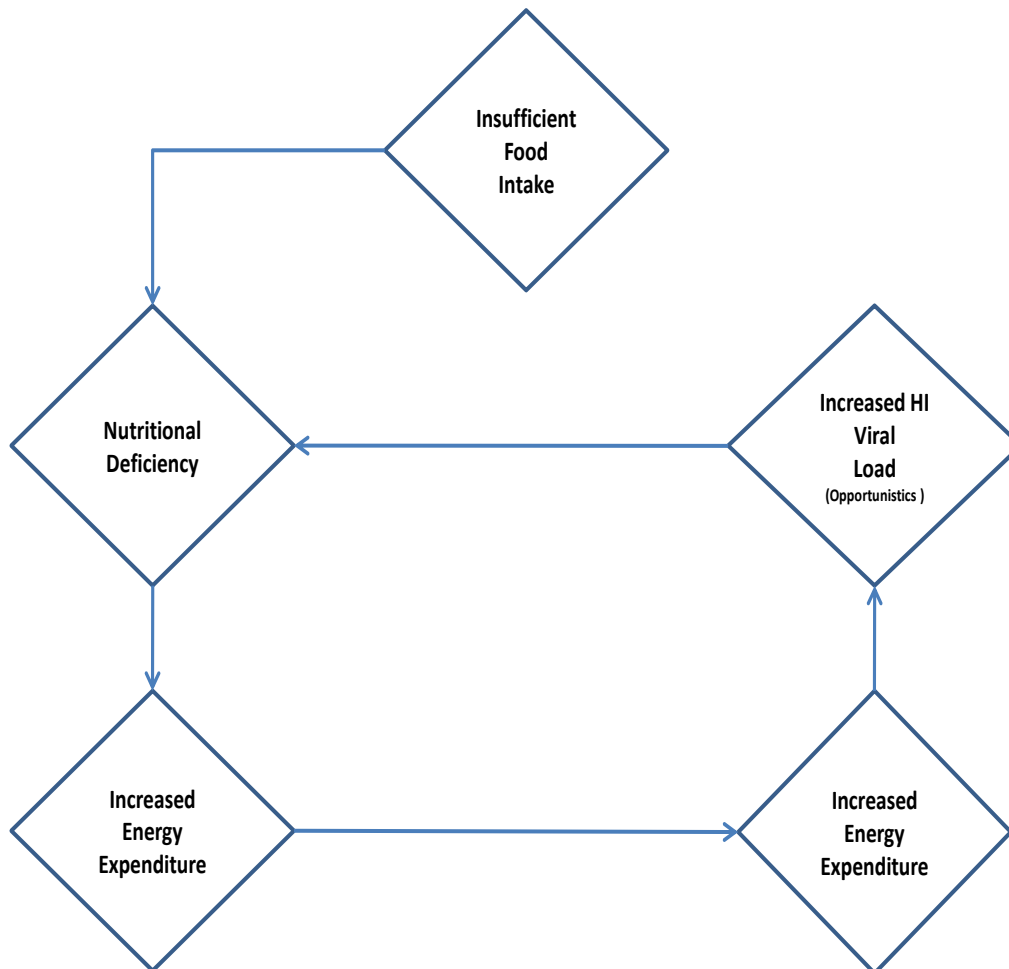


Figure 1.1: Malnutrition–AIDS Vicious cycle

HIV/AIDS and women

Women may be more susceptible to HIV/AIDS than men. This is because women have an increased mucosal area of exposure, increased susceptibility through greater mucosal trauma, prolonged exposure to infected male secretions and immunological differences between man and women (Bere et al 2009). Furthermore, the immunological make up of the female genital tract has great area of exposure to the HI Virus as compared to that of men (Ray et

al., 2000; Bere et al., 2009). Cultural, economic and social inequalities of the status of women in the society are further intensified by the HIV/AIDS. Hence women are more vulnerable to HIV/AIDS as compared to men. Women are more susceptible to HIV/AIDS because they are epidemiologically and socially vulnerable to HIV/AIDS.

The importance of a good diet

A good diet is important for the reason that it assists in the normal functioning of the immune system (Woods, 2007). If one's immune system is functioning well, this helps to prolong the asymptomatic HIV infection period (Woods, 2007). A good diet helps one to maintain a normal body weight, which helps maintain a better immune system and in turn reduces the HIV viral load (Woods 2007). Studies by Tang et al. (2002) have shown that weight loss strongly predicts illness or death among people with HIV. This affects the way an individual accesses and utilizes food, if one gets wasted by the disease it becomes difficult for them to access food on their own and one might start to lose his or her appetite, hence affecting utilization of food.

HIV/AIDS and Nutrition

HIV and nutrition are intimately linked. HIV infection can lead to malnutrition because the infected person might have loss of appetite, while poor diet can in turn accelerate the disease's progression to AIDS (Topouzis 2000).

Antiretroviral and Nutrition

The nutritional status of an individual living with HIV can have both negative and positive effects on the progression of the HI Virus to AIDS (Tang et al, 2005). Tang et al., (2002) states that if individuals taking ARVs lose as little as 3-5% of body weight it significantly increases the risk of death and losing more than 10% is associated with a four-six-fold greater risk. In a study conducted in Zambia involving 30 000 patients, it was found that the inability to gain weight six months after the start of ARV treatment increases the

chance of death ten fold when compared with those who gain over 10 kilograms (Koethe et al., 2010).

It has been found out that the ways in which the body digests, absorbs and makes use of drugs are very similar to the ways in which it treats food, providing many opportunities for food-drug interactions. A number of foods and supplements are known to alter the effects of antiretroviral drugs. It is also possible that some micronutrient deficiencies may make the drugs less effective, or may worsen side effects (WHO, 2005). Studies conducted in Malawi and Singapore revealed that there is a greater chance (twice as much) for patients with mild malnutrition (a low body weight for their height) to die in the first three months of treatment. While those with severe malnutrition are six times more likely to die than those of healthy body weight (Zachariah et al., 2006)

Different micronutrients have been linked to changes in the rate at which HIV infection progresses to AIDS. Low levels of vitamin A, vitamin B12, vitamin E and selenium seem to accelerate progression. (Tang et al, 2005). Yet, zinc and iron, appear to be harmful at high levels. Although zinc is essential for a healthy immune system, it also plays a crucial role in HIV's replication cycle (Tang et al., 2005). Proper nutrition according to Piwoz and Prebble (2002) is recommended in order to manage HIV/AIDS.

ARVs are capable of interacting with food in a negative way which may lead to a negative nutritional status. For this reason if the relationship between one's ARVs and nutritional status is not managed well it can lead to the deterioration of one's health because of the negative impacts due to the interaction of the two. This affects how one utilises food (Department of Public Health, Botswana and WHO, 2007). Furthermore, the interactions between food and ARVs if they are not managed well can lead to non-adherence to the ARVs treatment regime.

One of the major complications of HIV infection is that of malnutrition (Piwoz and Prebble, 2002). People living with HIV/AIDS (PLWHA) in areas that have

limited resources and in conditions that lead to malnutrition are vulnerable to becoming economically unproductive and unhealthy (Keithly et al 2000). Hellerstein et al (1998) and Keithly et al (2000) suggest that an individual living with HIV/AIDS and eating nutritional food is likely not to have opportunistic diseases and is likely to experience longevity. Insufficient food intake and malabsorption, results in increased energy expenditure.

Expanded Food security conceptual framework

The expanded conceptual framework was developed by Food for Peace (FFP) and its partners. The developers of the framework added the dimension of risk and vulnerability to the 1995 conceptual framework, which is why the framework is called the “*expanded*” food security conceptual framework. The 1995 framework was part of the “Food Aid and Food Security Policy”. The Framework that was in the 1995 policy focused on availability access and utilisation of food, the framework did provide good underpinning for the directions that were essential to the program during that time. Furthermore, it was a useful/good initiative in the development of the expanded conceptual framework. However, the framework that was in the 1995 policy did not put into account “*the vulnerability of countries, communities and households at risk*”.

The USAID definition of food security implicitly includes the dimension of risk. That is, by including the phrase “*at all times*” in the food security definition, this suggests that, for food security to exist, there has to be very low risk of a country, household and individual to fall below “*adequate levels of availability, access and utilization*” of food. Previous frameworks have given less emphasis to “*the risk of one losing the ability to access and utilize food*”. Rather, the focus has been on the levels of food availability, access and utilization.

The framework illustrates that vulnerability can mean that food security can be gained or lost or it can be interpreted as household’s or one’s impotence in managing risks. If a country, household or individual is incapable of coping

effectively with hazards or shocks they in fact become vulnerable and might need assistance. To help reduce vulnerability, exposure to risks must be reduced. In addition, vulnerability can be reduced by increasing the country's, household's or individual's ability to manage risks. Countries, households or individuals can become fragile due to social, political and economic factors (www.ec.europa.eu) and (www.usaid.gov) .

The expanded food security framework that is presented in Figure 1.2 presents the basic food security framework on the top part of the diagram. The basic food security framework shows the desired food security outcomes that will lead to improved food security. It also shows the risks that must be dealt with in order to achieve food security. The bottom part of the food security framework links the risks that have to be tackled in order for a country, household or individual to become food secure to the desired food security and program outcomes. The framework demonstrates that for the food security concept to be understood it is essential to understand risk. This is because *“unmanaged risks lead to food insecurity, while managing risks can protect and enhance food security”* (www.usaid.gov).

The framework makes it clear that risks come from many sources. Food supply is mostly affected by the fluctuations in climate e.g. depletion in soil fertility, or loss of productive assets by a household. Access to markets can be disrupted by factors such as changes in global terms of trade or policies. Food access is likely to be affected by conflicts, loss of livelihoods e.g. introduction of visas to neighbouring countries, this will affect cross border trading or seasonal job migration. Lastly, food utilization is affected by epidemic diseases, lack of knowledge on appropriate nutrition and social cultural practices, this can vary according to age or gender e.g. men get the lion's share in a household. The bottom part of the framework shows political risk such as bad governance leading to economic, natural, health and social risks (www.usaid.gov).

The framework emphasizes on livelihoods and assets and the support of consumption indicators. In addition, it includes a rationale on how to respond to HIV/AIDS and interventions of food insecurity in urban areas.

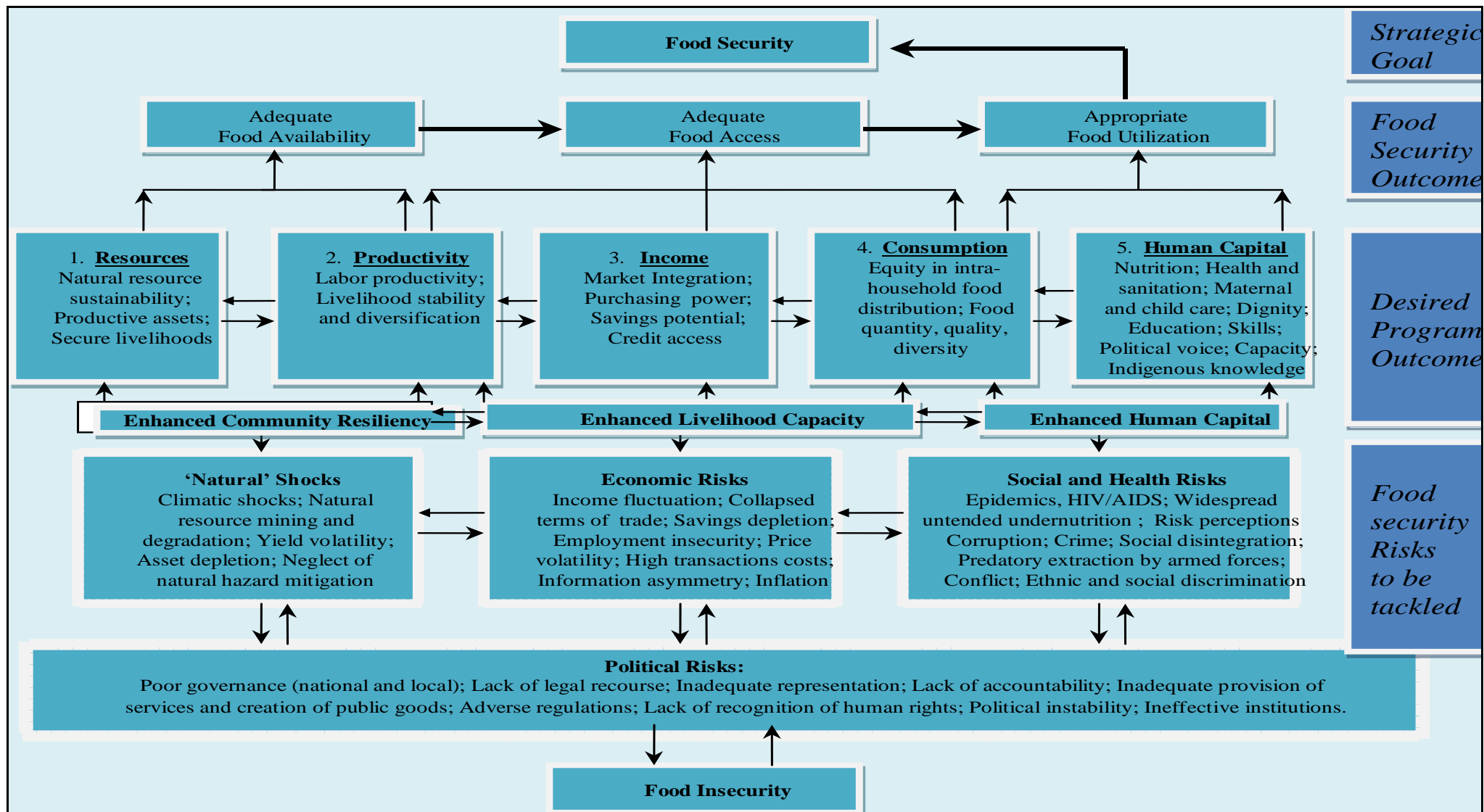


Figure 1.2: Source-USAID, Expanded Conceptual Framework

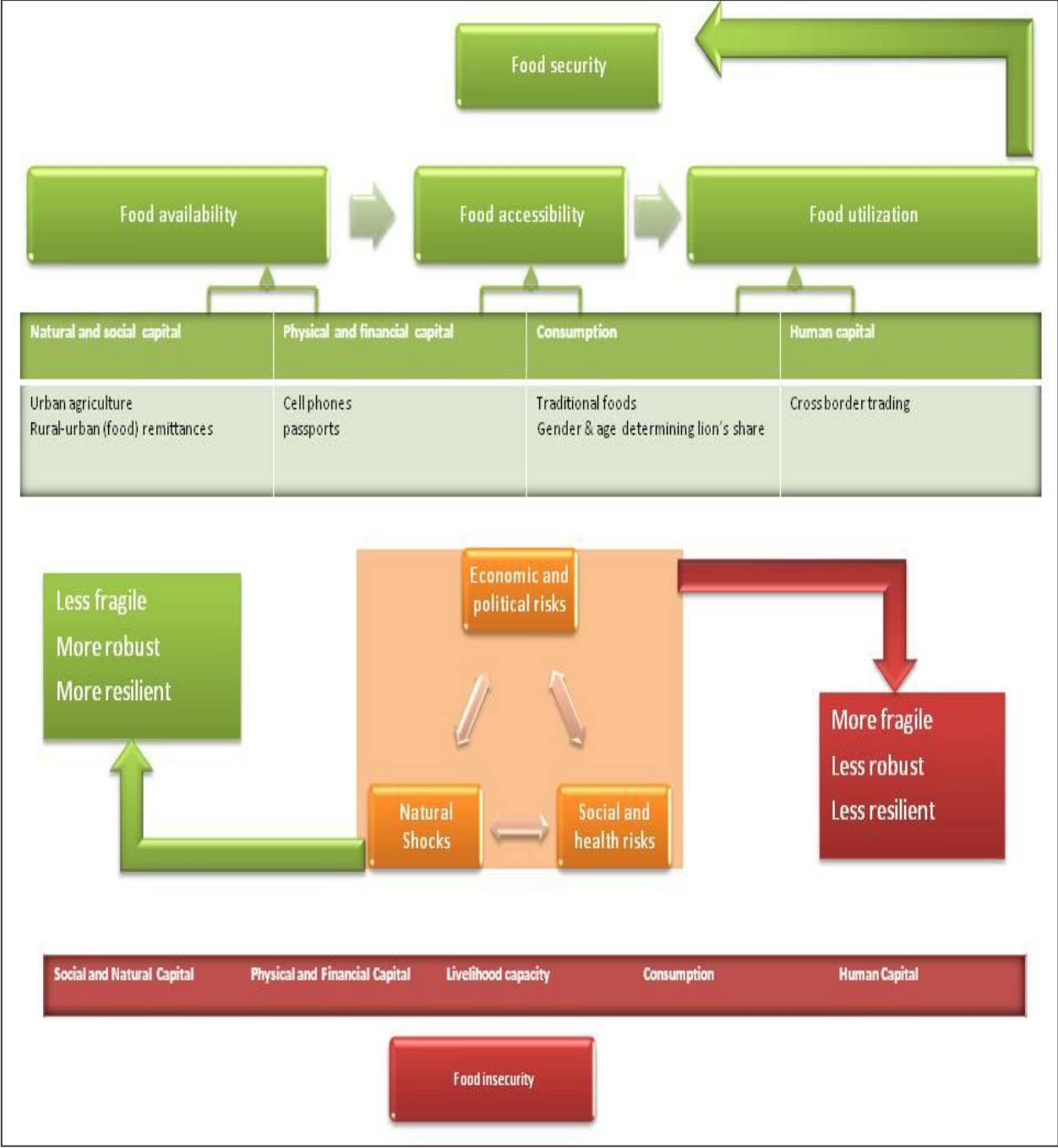


Figure 1.3: Source- adapted from USAID Expanded conceptual framework

For this project the top part of the expanded food security framework will be used, this is because it leads to food security. Different colours were used in order to show the different factors that lead to food security and food insecurity. The orange colour showed the neutral part of the framework. The red part leads to one being food insecure and the green part lead to food security. If economic and political, natural and social and health risks are managed well, there is a probability of becoming food secure. If one is not able to manage the above mentioned risks then one is likely to become food insecure. The research findings show that the women were more resilient to the shocks.

Figure1.3 outlines the conceptual framework for the women participants. It gives a few examples of the assets that these women had and applied in order to access food.

RESEARCH CONTEXT:

Introduction

This chapter gives a detailed analysis of Zimbabwe, where the study was conducted. It gives a brief background of the economic setting, food security and HIV/AIDS in Zimbabwe.

Economic Setting

In the past ten years Zimbabwe has undergone a serious economic downturn. The economic downturn that has been faced by the country in the past ten years has resulted in the country losing its position as the breadbasket of Africa to becoming an importer of staple foods for its population (Zim VAC, 2009).

Since 2000, Zimbabwe has undergone a serious economic downturn during which employment has fallen to as low as 20%. The loss of formal

employment generally leads to growth of informal employment like home industries and market vending of various commodities ranging from vegetables to clothing, plaiting of hair, baking and cross-border trading. Market vending has been traditionally run by women. In this setting of general economic hardship, formal income is not regular in amount or time (ZimVAC 2009).

The country's economy experienced negative economic growth, that GDP fell over a time period, but it is now beginning to show signs of recovery due to the economic and political stability.

Food Security

Zimbabwe has experienced the highest levels of food insecurity in the world since 2000. Following 2002, Zimbabwe has been receiving food aid from other countries (ZimVAC, 2009). Poor rainfall, declining economy and recent land reforms have been major contributors to reduced agricultural productivity. Few.net (2010) stated that about 2.71 million people had inadequate access to food during the period of January and March 2010. Zim VAC (2009) reported that the food shortages in Zimbabwe were a particular challenge to women, because they are mainly the ones who access and prepare the food. According to Few.net (2010) most of the households sourced their food from remittances, food aid, bought from shops, or own production.

An assessment on food security by ZimVac in 2006 highlighted that most residents of the urban periphery and high density areas in Zimbabwe were food insecure and this situation has been worsened by issues such as high food prices. It became common for some affected households to cut down on the number of meals per day, diversity of meals and the size of food proportion (ZimVAC 2009).

HIV/AIDS in Zimbabwe

Zimbabwe is one of the countries in the world that has high rates of HIV/AIDS (Pierre, 2006). About 1.3 million (2007 est.) people from the age of (0-49) are

living with HIV and approximately about 140,000 (2007 est.) people have already died from AIDS (www.cia.gov).

In Zimbabwe HIV/AIDS is commonly transmitted through heterosexual sexual contacts. In a National survey conducted it has been revealed that HIV prevalence has declined since 1998-2003 with an overall decline from 23% to 20.5 %. This decline in prevalence could be due to HIV prevention programs that have been implemented in the country. This could be a result of people changing their sexual behaviours or people migrating to other countries (Gregson et al 2006 and www.avert.org).

METHODOLOGY:

Introduction

The study's aim was to investigate the ability of HIV positive women on ARVs to meet their nutritional requirements consistent with their treatment and care plans. The research used a qualitative research methodology. Primary data was collected from twenty two women through semi-structured interviews. This section is going to describe how data was collected and analyzed

Key informant

In order for the researcher to meet the participants there was the help of a key informant, whom the researcher knew quite well. The key informant had been living with HIV/AIDS since 2004. She introduced me to her friends who are living with HIV/AIDS and these friends knew other people who were also living with HIV/AIDS whom they introduced me to, and the snowball rolled until the study sample grew to twenty two women.

Study sample

The research required women who were living with HIV/AIDS and who were currently on ARVs. Their ages ranged between 18-50 years. The participants had to participate on a strictly voluntary basis, for this reason those who were willing to take part in the research were asked to sign a consent form that informed them about the research, it further informed them that they were not going to get any money from participating in the research. Firstly permission had to be sought from the ethical body. The tools that were used to collect primary data were semi-structured interviews.

Snowball sampling

This project used snowballing as a sampling methodology. This non probability method was used because the members of this population were “*difficult to locate*” due to the stigma that is attached to HIV/AIDS in Zimbabwe. According to Babbie and Mutton (2007:167) “*This procedure is implemented by collecting of data on the few members of the target population you can locate and then asking those individuals to provide the information needed to locate other members of that population whom they happen to know*”. For this reason there was an individual who helped with the names of the members who were willing to be interviewed.

Semi-structured interviews

Structured questionnaires (refer to appendix A) were developed, these were used to explore how the participating women were securing their food using components such as availability of food and utilization of food. The questionnaire drew on survey tools previously used in research by the African Food Security Urban Network, the Red Cross/Red Crescent and FANTA.

Semi-structured questions were conducted in the language that the participants felt comfortable with. They were useful in developing an understanding of how these women who were living with HIV/AIDS had access to nutritional and adequate diet and furthermore understand the livelihood strategies that these women applied in order to access food that

conforms to their ARVs treatment regime. These were conducted on a one to one basis. The interviews were 1 to 2 hours long, with breaks in-between. These interviews addressed issues like what they knew about nutritional needs, whether they were able to achieve this and how they achieved this. Interviews were recorded using a digital recorder.

Data consolidation and analysis

Primary data that was obtained from the field was arranged systematically and under themes. After this a context specific food security framework was created. Some of the data was captured in Excel spreadsheet in order to create graphs and tables that were helpful to interpret the research findings.

Ethical Considerations

There were ethical considerations that had to be followed during the collection of primary data. First of all, all the participants were going to participate on a voluntary basis, for those who were willing to participate they were not promised things like money or food in return.

For those who had agreed to participate they were asked to read the consent form or it was read to them. After reading the consent form they were then asked to sign it that is if they were still willing to take part in the research. Confidentiality was promised to these participants, they were informed that their real names were not going to be used in the writing up of the report; pseudonyms were used in order to conceal the identities of the participants. The participants were also asked after the interview if they had information that they did not want to be published.

Researchers position in the field

First of all as a researcher I had to understand my position in the field, that is to say my position was capable of shaping the way the participants related to me. Hence I had to understand the similarities and differences that were

between me (researcher) and the participants. Considering that HIV/AIDS is a very sensitive issue, firstly, I had to form a bond with the participants so that I could earn their trust, in order for them to be able to tell me some of their personal information. I had to eat what they offered me, helped in some of these women's gardens. These women saw me as a very educated someone and they started comparing me to their daughters or relatives who got pregnant whilst they were still in school. Hence they related to me with some respect, Chido even said to me, *"you are saying this project is for your school work, so you have to pass it, this means we have to make sure that you pass"* (Chido 2010 June 2). For this reason my position could have made these women to say some things so that they please me or support me in my school work.

Limitations

Two main limitations were encountered during in this project there was the limitation of translation error and that of the snowball sampling. They are discussed below:

Firstly, there was the translation error; some of the English words did not have an equivalent Shona word. This limitation was addressed through triangulating translation (Babbie and Mutton, 2007).this is the process whereby another Shona speaking person helped the researcher to translate the questions into Shona and back to English and to agree on certain meanings.

Secondly, the methodology (snowball sampling) that was used in the research had its limitations. The participants had the same socio-demographic background though they were from different parts of Harare. This means the research dealt with people from the same socio-demographic background. It was difficult to eliminate this issue because most people who are living with HIV/AIDS have not disclosed their HIV status to friends and relatives, due to fear of stigma attached to HIV/AIDS.

FINDINGS:

The following section is going to present the findings of the analysed data that was collected from the field. The section begins by describing the types of ARVs that were taken by the participants, followed by knowledge of nutritional needs, sources of information and fulfilment of nutritional needs.

Types of antiretroviral drugs that were taken by the women

Introduction

This section's main focus is on the types of ARVs that were being taken by the participants.

Listed in Table 1.4 below are the types of drugs that the participants were taking. There were five types of drugs that the participants took. For this reason these women were on two different levels of their treatment regime. Two of the drugs were a combination of two drugs and the other three were single drugs (mono therapy).

The most common types of ARVs that these women took were Lamivudine + Zidovudine which they referred to as Combivir and the second most used drug was Lopinavir+ Ritonavir which they also referred to as Kaletra. Hence the most common used were the combination therapy as compared to the mono therapy. Interestingly, not all the ARVs that are listed in Table 1.1 need not to be taken with regards to food.

Drug	Brand Name	Regards to meal	Time
Lamivudine + Zidovudine	Combivir	On empty stomach or with Food	Morning & Night
Saquinavir	Fortovase	Yes, Light meal	Morning & Night
Lopinavir + Ritonavir	Kaletra	Yes	Morning & Night
Nevaripine		No	Morning & Night
Ritonavir		Yes, if possible	Morning & Night

Table 1.1: Showing the types of ARVs that the participants took

All the participants took their medication with food. All the participants took their ARVs twice a day in the morning and at night.

Impact of drugs

All the participants stated that at some point they had negative side effects if they took the drugs on an empty stomach. Hence nowadays they make sure that they eat before they take their drugs. On the other hand five of the participants stated that the type of side effects that they experience depend on the type of meal they would have eaten before taking their medication or after taking their medication. The participants indicated that they suffered from the following side effects; headaches, diarrhoea, vomiting, rash, constipation, poor appetite, depression, diarrhoea, dizziness, fatigue and fevers.

Knowledge of nutritional needs

This section of the project tries to understand the extent to which these participants knew about their nutritional levels. The question that is being answered in this section is, did they KNOW about their nutritional needs or they THOUGHT they knew about their nutritional needs.

All twenty two women who were interviewed stated that they knew what their nutritional needs were. They thought that they had knowledge as to what they

were supposed to eat. But, they further acknowledged to the fact that they might have an idea of what they were supposed to eat, but at times they were not able to afford these types of foods “modern foods”. Hence their diet was not consistent at all times and it was biased towards traditional foods which were cheap.

Twenty out of the twenty two women were not sure of the types of nutrients that were found in their everyday foods. They had a slight idea of the types of nutrients e.g. what vitamin; proteins were, but no idea as to which types of foods they were found in. To these women having a variety of foods in a day was good enough, their variety included foods such as Sadza¹, milk, meat and vegetables.

Furthermore, these women were not sure of the right amounts of the nutrients that they were supposed to have in a meal or in a day, that is to say the amount of proteins, carbohydrates etc. They stated that they had an idea that they were supposed to eat healthy and that food provisions such as fruits, vegetables, meat, milk were the ideal types of foods. Box 1 provides an example of the limited knowledge of participants around their nutritional requirements.

“I used to dislike garlic very much. I found the smell unbearable, but because I want to get well I have it on my door step nowadays. As you can see I grow garlic in my garden I was told by a friend of mine to eat a lot of garlic she said that if I eat a lot of it everyday it will help my body to fight away opportunistic infections. So these days I make sure that every meal that I have I put garlic, I even chew it”. When she was asked if garlic was helpful she said that “I think sometimes it is helpful and sometimes it is not” (Rudo² 2010, June 20).

Box. 1: Providing an illustration of limited knowledge by the participants

¹ Sadza is the staple food of Zimbabwe. It is a product of maize meal. It can be eaten with vegetables, beans or meat or one of the above mentioned.

² Not real name.

Rudo was not sure of the amount of Garlic that she was supposed to eat in a day for it to be effective.

To conclude, the participants thought they knew about their nutritional needs. Their knowledge was limited and it was vague, but they made use of the little knowledge that they add in order to eat healthy.

Sources of information

The participants had gained the information they had on meeting their nutritional requirements from a variety of sources. Participants were advised on utilization, storage, cooking procedures, and type of food that they supposed to eat and advice in general from these sources. The participants deemed some of the sources to be unreliable as compared to other sources. Table 1.2 below shows the sources of information for these participants.

Source	Doctors	Local clinic	Friends/ relatives	Radio	Television	Educational books	Church
Number	22	22	5	4	6	7	2

Table 1.2: Showing the sources of information used by the participants

As shown in Table1.2 the women participants derived their information form seven sources. These sources were independent from each other except that of the doctors and nurses from the local clinic. The first sources of information that these women came in contact with about their nutritional needs were the doctors and the local clinic where they were diagnosed HIV positive. All the twenty two participants said that doctors and local clinic were reliable sources of information. Doctors and nurses provided information such as the types of foods, how the foods should be prepared, and the times they should eat in a day and when they should take their medication.

Five of the participants got extra information from their friends and relatives. The information they got from their friends and relatives was on issues on

storage of food, how to cook meals such as vegetables and advise on eating healthy. Box 2 provides an example of how one of the women participants was informed on how to store onions by a friend.

“Last month a friend of mine visited me because I was not feeling very well. As I was preparing lunch for us she realised that when I finished cutting the onion I put the remainder of the onion in the fruit basket without covering it, she warned me about the bacteria that it will accumulate if I leave it in the open. I did not know about this until she told me. I think that some times friends and relatives are able to help you with information on things that you might not have gotten from the hospital”. (Rosemary³ 2010, June 7).

Box. 2: Illustrates source of information

The radio was a source of additional information it was used by four of the participants. The radio was considered to be a reliable source by these participants. One woman said that the information at some point was conveyed in the form of dramas and it made it easier for her to remember about the nutritional needs. Guidance from the radio was said to be on traditional foods and exercising in order to keep fit. Six of the participants claimed to have obtained additional information about the types of food that they were supposed to eat from television programs. Educational books were another source of information that helped seven women participants to gain additional information about the type of diet that they were supposed to have. The educational books that the seven women read were from friends and relatives and two of these participants bought the books, three of the participants said they read their children’s school books.

Two of the women stated that they obtained additional information from church groups that they attended. These groups informed people about eating healthy as a general issue rather than getting into details.

³ Not real name

Twenty two of the participants considered their initial sources of information (doctors and nurses) to be more reliable than their additional sources of information. One out of the twenty two participants said that she will trust any source of information this particular woman thought that all the sources of information were reliable. The source that was considered to be less reliable by the twenty one of the participants was that of friends and relatives, this is because sometimes these people themselves did not really know about HIV/AIDS. Box 3 below contains an excerpt of a forty four year old woman (one participant) who said that she will trust anyone who comes with information to her.

*“You know what my daughter there is a proverb in our Shona⁴ culture which says that **akubaira zani ndewako**⁵. So, anyone who comes to me with advice I will follow it, because that person cares about me”. My husband used to cheat me and people came to me telling me about it but because I was so much in love I chose to ignore them. This is because I did not trust these people; look at me now if only I had listened most probably I would be in such a situation. She looked at me and said “with the situation that I am in now, even if someone is to come and say eat a chameleon so that you get well I will do it”. (Thandiwe⁶, 2010, July 2).*

Box 3: Provides information on reliability of sources of information were.

For the five women who were getting food from the World Food Program (WFP) they said the nutritionists from the organization informed them about the types of foods that they were supposed to eat. They also enlightened them on the types of foods that they gave them and their nutritional contents they said they were advised to buy cheap food that was natural and these foods were the traditional foods. These women said that the nutritionists did

⁴ Shona is one of the two main languages that are used in Zimbabwe. It is used in the Mashonaland part of the country.

⁵ This proverb means that one who gives you advice loves you and cares about you.

⁶ Not real name

not disregard the modern foods, but they advised on cheap alternatives (traditional foods) which could be afforded and accessed by everyone.

The results showed that the five of the women who had disclosed their HIV status gained had an additional source of information as compared to the other seventeen who had not disclosed their statuses.

Fulfilment of nutritional needs

This section of the report aims to clarify on the issue of fulfilment of nutritional requirements. After the women got information from the different sources what did they do with the information? Were they able to fulfil their nutritional needs? This will be clarified through the answering of three questions; what are these individuals eating? When are they eating? And whether there were any gaps in what they ate and when they ate?

What were they eating?

During the period the research was conducted, foods listed in Table 1.3 below were the foods the participants were eating. All the twenty two participants put the types of foods that they ate into five different categories. The categories were; Traditional foods, Vegetables, Fruits, Meat and the other category. These participants were asked to name the types of foods that they ate and they came up with these categories.

The reason why these women categorised these foods was because when they were diagnosed the nurses and the doctors encouraged them to eat foods that were natural; unprocessed, with no additives. These foods were traditional foods because they are natural and cheap meaning they are easily accessible. The traditional foods comprised of foods such as mbambaira (sweet potatoes), madora (mopani worms), mbeva (mice) just to mention a few. All the participants relied on sadza from maize as their main source of carbohydrates, rice, sadza from finger millet and sorghum were considered to be alternatives.

Furthermore, traditional foods were the most common type of foods that were eaten by all the women participants because they were easily accessible, they were cheap, making them readily available and they were given to these women as food remittances.

Foods that were in the other category were not eaten by many of the women; those who could afford were the ones who ate foods from these categories. Things like brown bread juice and milk were considered to be expensive thus few people managed to buy them. All the participants stated that they ate food from these categories but not frequently because they were expensive, they said they ate them maybe once in a month or two months.

The eating of traditional foods in the urban areas showed that there is a link between urban food security and rural agricultural production, in the form of rural urban food transfers. The reason is that most of the traditional foods are grown in the rural areas except for two exceptions which were pumpkin leaves and dried rape these can be produced in the urban areas.

Traditional foods	Vegetables	Fruits	Meat	Others
Mapfunde (sorghum)	Cabbage	Bananas	Beef	Fruit juice
Mopani worms	Carrots	Apples	Chicken	Brown bread
Pumpkin leaves	Potatoes	Oranges	Fish	Milk
Ishwa (flying ants)	Spinach	Watermelons	Pork	Rice
Mbeva (Mice)	Rape	Mango	Liver	Tea
Kapenta	Covo	Peaches		Dilute to taste drink
Dried rape	Beans			Eggs
Zviyo (Finger millet)	Peas			
Mowa (pig weed)	Butternuts			
Derere (okra)	Pumpkins			
Sour milk				
Sadza				
Sweet potatoes				

Table 1.3: Categories of food eaten by the participants

Drug intake and food intake

There were gaps in the sense that most of these women did not have enough information on the types of ARVs that can be taken with no regards to food and those that can be taken after a meal or before a meal and those that can be taken with a special meal such as a lot fat meal or a meal rich in calcium. All the twenty two participants made sure that they had food before taking their drugs.

Inconsistencies in meeting nutritional needs

Introduction

For the purpose of the research gaps were any shortfalls that were experienced by these women in meeting their nutritional needs.

Income availability

Most of these women's food or household income was not consistent. Some of the ladies did not manage or afford to have three meals ⁷a day. Yet, on the other hand there was another participant who seemed to be able to get three meals a day but at times she felt lazy to prepare herself some meals, not because she was ill but because she sometimes did not feel like eating she said she did not like to eat all the time. All the twenty two women relied on the staple food which is sadza. Sadza is a product of maize. Therefore, most of these women relied more on carbohydrates than proteins.

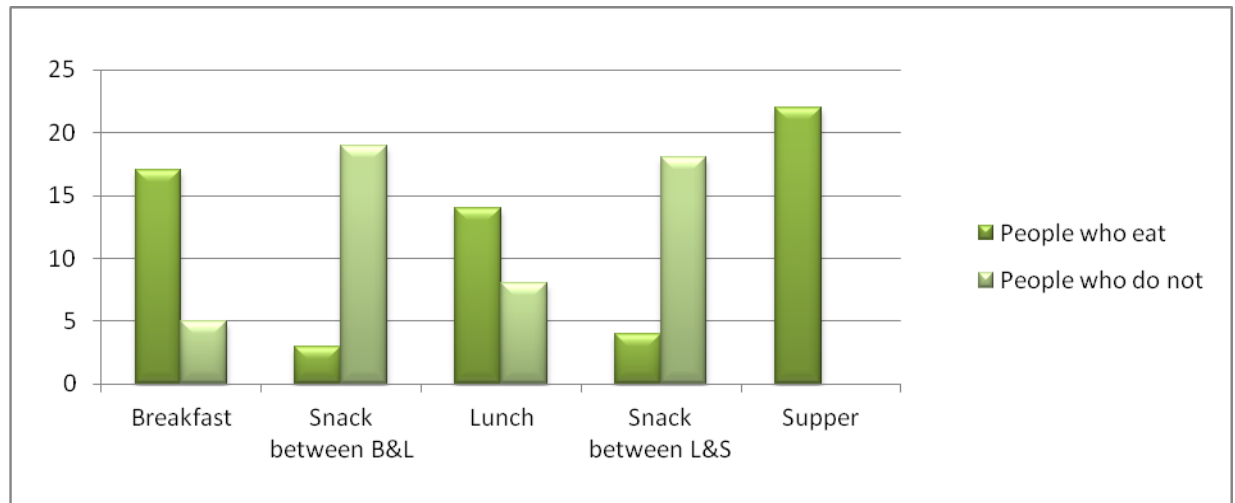
Meals they ate [in the past month (May-June)]

Introduction

The women participants tended to eat only two meals a day and they ate these meals at the time they took their medication

⁷ Porridge was not considered to be a meal

The number of times they ate in a day



Graph 1.1: Shows when participants ate

Breakfast

Seventeen of the participants said they had breakfast everyday in the last month. Breakfast was defined as having tea/ coffee, bread and eggs or bread with peanut butter or bread with butter only. Interestingly, it is not that the remaining five participants did not have breakfast, they had it in the form of porridge or cereal but they chose not to call it breakfast. This is because to them an ideal breakfast is what has been defined above.

Lunch

Eleven of the participants had lunch and eleven did not have lunch. The remaining eleven said they preferred to cook when most of the household members are at home and during lunch most household members will be not at home. So they would rather have a snack around three in the afternoon. About four of the participants had the snack and the rest did not.

Supper

All the woman participants had supper. This was a meal that they did not miss. Supper was eaten on an everyday basis.

To conclude the most eaten meals were breakfast and supper the reason was that these women to their medications in the morning and at night. In order not to take their medication on an empty stomach they made sure that they ate these two meals a day, thus they were the most important meals of the day.

Food security strategies

Majority of these women applied different activities in order to access food for themselves and their households. Most of their activities overlapped that is to say they do not rely on one activity or livelihood to access food.

The most important part is that all of the participants were not seated at home waiting for people to help them. All the women stated that they tried to do piece jobs, cross border (informal businesses) in order for them not to rely on friends and relatives. Receiving of remittances both in the form of food and money was also another strategy of securing food. Having an urban garden helped all the twenty two participants to secure food from their garden produce or money from selling their produce, which was also used to buy food.

Rural-urban food transfers were important to all the twenty two participants. They all received food from their family members in the rural areas, these food remittances came in the form of maize meal, and traditional foods.

Five out of the twenty two participants received food baskets⁸ every month from the World Food Program (WFP). These food baskets were given to

⁸ The food baskets contained 50 kilograms of maize meal, four litres of cooking oil and beans.

people who were chronically ill as a comprehensive package to support people who are on ARVs. The qualification to get the WFP package was that these women weighed less than 50 kilograms (kgs).

Ten of the women asked some of their well up relatives to pay for their children's school fees. This meant that the money that was supposed to be used for paying of school fees was used to buy food for the household.

Four out of the twenty two had professional qualifications. The rest did not have any qualifications but had the ability to labour that is doing cross boarder trading and they possessed skills, such as baking, plaiting hair, and sewing, farming and buying and selling goods at Mupedzanhamo.

Food choices

Food preferences and portions

Twenty one of the women whose ages ranged from (26-50) believed that traditional foods were the best—energy giving foods, one will have a full stomach the whole day, they are cheap, easily available and accessible as compared to the modern foods. One of the women whose age was 25 was not so comfortable with traditional foods; nevertheless she ate them for health purposes. Furthermore, these women preferred traditional foods because they were advised to eat such foods by doctors and nurses.

Further gaps were found in the proportions/ servings of the food. All the participants did not have an idea of the ideal proportions/servings of a meal. They ate what was available at that time in point. They all said if there was more food in the house will eat more and the opposite applies.

To conclude the participants lacked knowledge of the quantity of food that they were supposed to eat each day and the participants preferred traditional

foods as compared to the modern foods. This is because they were affordable and easily accessible.

DISCUSSION:

This part of the research links the extended version of the framework to the research findings and to the other literature that was used in the project. In the context of the research it brings out HIV/AIDS being a risk to food security for these women participants. This is because opportunistic infections caused by the disease have a negative effect on how the women accessed and utilized their food. Furthermore, the disease can have negative impacts on the five capitals of the household or individual (www.ec.europa.eu 2007). Yet, for some, these opportunistic infections helped them to gain food from the WFP, thus it changed the way these people accessed food. For the five women who were receiving food baskets for the WFP they managed to gain food that is essential for their health. This conceptual framework applies to the participants in that they were all facing the risks and shocks caused by HIV/AIDS and for most they limited the way they accessed and utilized food.

Individual risk is shaped by economic socio-cultural and political realities. These limit the individuals "choices and options for risk reduction" (www.ec.europa.eu 2007: 8). This literature supports the research findings that showed that socio-cultural factors had an effect on how individuals reduce risk, the findings showed that in households where men were the head of households, received the lion's share in food proportions as compared to the rest of the other household members. This then put the women at risk of opportunistic infections because they are getting food in small quantities.

Impact of HIV/AIDS assets (risk)

“HIV has multiple impacts on livelihood security, increasing vulnerability, and through impacts on assets, institutions and livelihood strategies”(www.ec.europa.eu 2007: 12).

Human capital

The household's productivity is decreased by opportunistic infections caused by the disease. Some children will be forced to leave school, which will lead to these children attaining lower levels of education (www.ec.europa.eu 2007). Though the research findings did not have women who made their children leave school, they asked their relatives to pay for their children's school fees.

Financial capital

Medical costs reduced the household's income. The findings from the research are supported by www.ec.europa.eu literature, which states that the affected individuals and households maybe forced to sell their assets or borrow from friends and relatives in order to gain money for food. This puts these households at risk of not being able to access loans from banks because they do not have a stable income. One of the participating women stated that she was blacklisted from the banks because she borrowed money when she had a formal job and when she stopped she could not pay back the loan on time with the money that she got from her informal jobs.

Social capital

According to Frankenberger (1996), the spread of HIV/AIDS deteriorates social networks in communities. This is because the affected individuals can not help other households. Furthermore fear of stigma attached to the disease weakens the social capitals within communities. In the context of the research only five women had told their friends and relatives and the rest had not because they feared the stigma that was attached to the disease. The findings

of the research also showed that the women who had disclosed their HIV/AIDS status had an additional source of information of friends and relatives as compared to the seventeen who had not disclosed their status. Furthermore these women were at an advantage in terms of access to food, their relatives and friends supplied them with food and help where necessary because they were aware of their HIV/AIDS status and how could face problems in accessing food because of ill health.

Natural and physical capital

The women's Physical capital was compromised because of the illnesses that were associated with HIV/AIDS. This made these women vulnerable to food insecurity because they could not work as hard as they did before in order to access more food. The dynamic effects of HIV affected how these women accessed their food, when they were well they said they were able to access more food for themselves because they could do piece jobs but when they were ill they had little access to food and this also affected the way they utilized the food (biologically). Some said they lost appetite when they were sick. Ill health made access to food that kept them full that is if they managed to eat the food. However, for those who informed their relatives that they were not feeling well, they would get a variety of foods when their relatives visited them. These foods ranged from fruits to fruit juices which were healthy food stuffs. Land was equally important because the produce from their gardens provided food and income to the women participants.

To conclude HIV/AIDS made the participants vulnerable to food security due to the way HIV/AIDS impacted the assets of the women participants. But a garden always helped in easy accessibility of food.

Food choice and traditional foods

The research findings show that traditional foods were being associated with good health. This is also supported by Receveur and. Kuhnlein (2007)'s literature which states that the indigenous women of the Antarctic associated

traditional foods with health. The Antarctic women believed that traditional food were healthy, so as the women participants of this research. The results show that food preferences were important; it formed a fundamental part as to how people basing their diets on these things translate information from clinics, doctors and other sources into what they were eating. Furthermore, food preferences were shaped by cultural and social norms, season and taste (Ericksen, 2008).

Dimensions of food security

Accessibility

When they were not feeling well these women said they ate cheap food stuffs in order for them to save money to go to the doctor and for medication. Thus they relied more on traditional foods that were cheap and easily accessible as compared to the modern foods that were expensive.

Utilization

The progression of the disease leads to some people not being able to utilize food (biologically), thus, these infected individuals tend to eat small portions of food and less variety of food because of their ill health.

In conclusion HIV/AIDS can have a negative impact on the household's assets and on how individuals or households access and utilize food. Thus, one had to consider the above mentioned as risks that led the infected people to become vulnerable to food security.

Conclusion:

Food security is dependent on availability, access and utilization of appropriate foods to maintain a good health. For people who are living with HIV/AIDS and are on ARVs, they have particular nutritional needs. But, these women had little understanding of what their nutritional needs were. This is

because the information they got from their sources did not adequately translate into the types of foods that made up the typical diet of these women. The knowledge gap and challenges of access to food meant that food security was compromised. While a lot of research has been conducted on nutritional guidelines, there has not been enough addressing the connections between food access and food utilization challenges and adherence to nutritional guidelines. Given cultural and economic preference for traditional food, more needs to be done to produce culturally appropriate nutritional guidelines for HIV+ individuals on ARVs.

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REFERENCES:

Atkinson.S 1995. Approaches and actors urban food security in developing countries. *Habit international* 19(2). P 151-163.

Babbie, E, and Mouton J. 2001.*The practice of social research*. Oxford University press southern Africa

Barker R. 2000. Book Review: Food Security: Theory policy and Perspectives from Asia and The Pacific Rim. Cornell University, Ithaca, New York.

Bere, A. , Denny, L ., Burgers., W and. Passmore, J. 2009. Polyclonal expansion of cervical cytobrush-derived T cells to investigate HIV-specific responses in the female genital tract. *Immunology*. 130 (1), Pages 23 -33

Castleman, T. Seumo- Fosso, E and Cogill, B. 2004. *Food and nutrition implications of Antiretroviral Therapy in Resource limited settings*.

Chisholm, A and Tyres, R. 1982. Food Security: Theory policy and Perspectives from Asia and The Pacific Rim. Lexington Books. Lexington.

Department of Public Health, Botswana and WHO. 2007. *National nutrition and HIV/AIDS guidelines for service providers of people living with HIV/AIDS*. [Online]. Available:

<http://www.gov.bw/Global/MOH/Nutritional%20Guidelines.pdf>

<http://www.fhi.org/NR/rdonlyres/ee664prpqnshwqhfx3u2x75bzfl6d6jtngph365xsfyqzbhv762qy6zoe2zeo3y3xems66lkn746j/HIVNutritionFoodPracticalGuideHV.pdf>

http://www.health.go.ug/nutrition/docs/hiv/Nutrition_Care_for_People_Living_with_HIV.pdf (2010, September 18)

Devereux, S. 2001.Sen's Entitlement Approach: Critiques and Counter-critiques. *Oxford Development Studies, Vol. 29, No. 3. p (1-20)*.

de Waal, A. and Whiteside, A. 2003. "New Variant Famine': AIDS and Food Crisis in Southern Africa," *The Lancet* 362: 1234-37.

Ericksen.P. 2008. Conceptualizing food systems for global environmental change research. *Global Environmental Change*. 18 (1). P 243-245.

Fews.net. Food Security Assessment March 2010 National Report [Online]. Available:[http://www.fews.net/docs/Publications/Zimbabwe FSU March %202010_final.pdf](http://www.fews.net/docs/Publications/Zimbabwe_FSU_March_%202010_final.pdf)

Frankenberger, T. 1996. *Measuring Household Livelihood Security: An Approach for Reducing Absolute Poverty*. Food Forum Newsletter 34. Washington, DC, Food Aid Management,

Gregson S Garnett., G. P., Nyamukapa, C.A., Hallett, T. B., Lewis, J. J., Mason, P.R., Chandiwana, S.K., Anderso, R.M. 2006, HIV Decline in Zimbabwe. *Science*, 311(5761):573

Heikens G. T. et al (12 April 2008), "[Case management of HIV-infected severely malnourished children: challenges in the area of highest prevalence](#)", *Lancet* 371(9620)

Hellerstein, M, and Kotler, D. (1998). HIV- associated wasting syndrome and body-habitus changes. *PNR Notebook*. 3(3) p14-21

Keithley, J.K. Swanson. Murphy, M. Levin, D. 2000. HIV/AIDS and nutrition. mplications for disease management. *Nurs Case Manag*. 5(2) p. 52-59.

Koethe, John R MD. (2010, 1st April) '[Association between Weight Gain and Clinical Outcomes among Malnourished Adults Initiating Antiretroviral Therapy in Lusaka, Zambia](#)' *JAIDS* 53(4) 507-513

Loevinsohn, M., and Gillespie, S. 2003. *HIV/AIDS, Food Security and Rural Livelihoods: Understanding and Responding*. RENEWAL Working Paper 2. Washington, DC: IFPRI

Pierre. J. L. 2006. HIV/AIDS and the current political and economic situation in Zimbabwe “*From breadbasket to basket-case*”. [Online]. Available: <https://www.student.gsu.edu/~pst2/Onlineportfolio/HIVAIDS.pdf>

Piwoz, E., and E. Preble. 2000. HIV/AIDS and nutrition: A review of the literature and recommendations for nutritional care and support in Sub-Saharan Africa. SARA Project, U.S. Agency for International Development, Washington, D.C.

Ray, S.C and T.C Quinn. 2000. Sex and the genetic diversity of HIV-1. *Nature. Medicine*. 6:23-25

Receveur.J.O and. Kuhnlein H.V. 2007. *Traditional food attributes must be included in studies of food security in the Canadian Arctic*.

Relief web [Online]. Available: <http://www.reliefweb.int/library/documents/2004/scf-souafr-31aug.pdf> (2010, august 29)

Semba, R.D., and Tang, A.D.1999. “Micronutrients and the Pathogenesis of the Human Immunodeficiency Virus Infection,” *British Journal of Nutrition* 81(181)-185.

Southern Africa Food and Nutrition Security (SAFANS) in high HIV/AIDS Prevalence contexts, (2007). SANFANS Resource document.

Tang, A. M. et al (October 2002), “Weight Loss and Survival in HIV-Positive Patients in the Era of Highly Active Antiretroviral Therapy”, *JAIDS* 31(2)

Tang, A. M. et al (June 2005), "[Micronutrients: current issues for HIV care providers](#)", *AIDS* 19(9)

The World Fact book. Zimbabwe. [Online]. Available: www.cia.gov (2010, October 10)

Topouzis, D. 2000. *Measuring the impact of HIV/AIDS on the agricultural sector in Africa*. Joint and Cosponsored Program on AIDS. Geneva: UNAIDS, December.

UNAIDS.2009.[Online].Available:http://www.unaids.org/en/KnowledgeCentre/Resources/FeatureStories/archive/2009/20091021_UNFPA.asp (2010, October15)

UNAIDS/UN RIACSO. 2002. *Consultation on HIV/AIDS and the Southern Africa Humanitarian Crisis: Meeting Report*, Johannesburg, November 6-7,

WHO 2003. *Scaling up Antiretroviral Therapy in resource limited settings: Treatment guidelines for a Public Health Approach*. 2003 Revision. Geneva. December 2003.

WHO (April 2005), "Nutritional considerations in the use of ART in resource-limited settings

WFP(2008)

http://one.wfp.org/food_aid/doc/JC1515Policy_Brief_Expanded.pdf

UNAIDS policy brief: HIV, Food Security and nutrition

Woods, D. 2007. *Adult HIV a learning programme for professionals*. Electronic book works. P29-31.

Zachariah R. 2006. "Risk factors for high early mortality in patients on antiretroviral treatment in a rural district of Malawi", *AIDS* 20(18)

Zimbabwe Vulnerability Assessment Committee (ZimVAC) Urban Food Security Assessment January 2009 National Report

www.usaid.gov USAID. Expanded Conceptual framework

http://www.usaid.gov/our_work/humanitarian_assistance/ffp/expanded_conceptual_framework_annex_c.pdf

World Bank .1990. [Online]. Available :

<http://www1.worldbank.org/prem/lessons1990s/> (2010, september 20)

www.ec.europa.eu. 2007. *Food assistant programming in the context of HIV/AIDS*. [Online]. Available: http://ec.europa.eu/echo/files/policies/sectoral/health_2007food_assistance_in_context_hiv_fanta.pdf (2010, September 29).

APPENDIX A

Four questions that were supposed to be addressed;

1. What do people know about their nutritional needs (and is what they know right - you need to find this out through research within nutrition)
2. Where did they get their information from?
3. Are they able to fulfil their nutritional needs? (So, what are they eating? when? Are there gaps?)
4. How do they attempt to meet their needs? (Where does the food come from? what strategies do they use to get it?)

Personal information

Name of the participant

Age of the participant

The head of the household

The number of people in the household/ age and their gender

Address and contact number of the participant

The time that she found out that she was positive and how long have you been on the ARV treatment.

HIV/AIDS

1. Are you currently on the antiretroviral (ARVS) treatment regime?
2. What type of ARVS are you on? And do you know their nutritional needs
3. May you please describe and explain how you take your medication?

4. How can you describe the after feeling of taking your medication (ARVS) do you feel (worse or better)? Have you noticed any short or long term differences, since you started taking the medication?
5. How would you describe your nutritional needs
 - Do you think that the type of food that you eat should be different and if so what do you think you should eat?
 - Where did you learn about this?
 - Do you think that your food should be different from the rest of the household because you are sick?
6. How many times have you been sick in the past month any opportunistic infections?
7. May you please describe what you think might have been the cause of the sickness.

Food security

1. Do you work? How do you get income for the household
2. May you please tell me about the different ways in which you use to ensure that there is food in your household?
3. Do you possess any qualifications?
4. How do you use your qualifications and any other skills that you have in getting an extra income?
5. Does your income come frequently?
6. May you describe the ways in which you put your income to use? School fees, rent etc?
7. How have you secured your food in the past year and in what ways has securing food for your household changed from 2009-2010? If yes how and why?

8. May you please describe the number of meals you have per day
9. Who prepares these meals? If it is you what happens when you are sick?
10. Do you have different diets for specific family members
11. Do you have people (relatives/non-relatives) who contribute to your household? Refer to Page 7
 - How much/ what in specific
 - How long
12. Do these people who offer you stuff expect anything in return
13. What has been your experience of the food prices in securing food for your household and how have you adjusted to this?
14. Can you please give me prices of important commodities
15. What other ways would you apply in order to make your situation better in securing food for your household?
16. Are you able to meet your nutritional needs and if Yes can you please explain to me how you do it
17. Can you please tell me more about the type of foods your household eats?