STRESSORS, COPING MECHANISM AND SOCIAL SUPPORT AMONG HIV POSITIVE FEMALES ATTENDING ANTIRETROVIRAL TREATMENT CLINIC IN A TERTIARY INSTITUTION IN IBADAN.

BY

Adeyinka Olufolake ADEFOLARIN
B.Sc (Hons) Human Nutrition (University of Ibadan)
MATRIC NO - 65562

A dissertation submitted in partial fulfillment of the requirements for the award of master of Public Health (Health Promotion and Education) of the University of Ibadan,

Department of Health Promotion and Education
Faculty of Public Health, College of Medicine,
University of Ibadan, Nigeria.

DEDICATION

I dedicate this research to all HIV positive women

ABSTRACT

Human Immunodeficiency Virus (HIV) is one of the infections which induce a lot of stress. In Nigeria, stressors and coping mechanism among women living with HIV have not been fully investigated. The study therefore assessed the stressors, ways of coping with HIV and sources of social support among the women attending the President's Emergency Programme For AIDS Relief, (PEPFAR) Anti Retroviral treatment clinic.

The study was a cross-sectional survey involving 396 consenting HIV positive women who attended PEPFAR clinic, College of Medicine, University of Ibadan, for their routine for their care and treatment July and August 2008.They were selected by multistage sampling technique. Focus Group Discussion (FGD) sessions and validated questionnaire were used for data collection. The questionnaire was the adaptation of the HIV stress scale developed by Packenham and Rinaldand and Ways of Coping Checklist as revised by Vitaliano . Descriptive and inferential statistics were used to analyze the data. The FGD data were analyzed using the thematic approach.

The mean age of the respondents was 34.8±9.0 years. Majority (89.4%) had formal education. Seventy six percent were employed and 62.6% were married. Sixty six percent had disclosed their HIV status to their partners. Forty six percent respondents reported that their partners were very supportive while 17.4% stated that their partners were partially supportive. Only 19.5% reported that their partners were not supportive. The major sources of support mentioned included family (43.9%), partner (31.6%) and God (12.6%). Signs of stress reported included headache (63.9%), decreased sex drive (55.3%), worry (52.3%), muscle tension and pain (51.5%) and irrational fear (40.4%). The mean stress scores by marital status were: married (21.4±14.4), widowed (24.8±12.3), separated (27.4±13.6), divorced (32.3±11.0) and single (22.9±16.2) with no significant difference ($p>0.05$). The proportion of respondents who received pre-test counseling was 82.8% while 92.4% received the post-test counseling. Few (9.6%) respondents received only post test counseling while 7.6% received neither pre-test nor post-test counseling. Main stressors identified included difficulty in coming to terms with HIV status (83.8%),

difficulty in telling others about their HIV status (76.8%) and financial difficulty (53.5%). The coping strategies employed included acceptance (88.4%), confrontation (88.4%), avoidance (79.0%), crying (60.1%), wishful thinking (48.0%), anger (34.3%) and blaming self and others (14.4%).The FGD discussants disclosed that decisions related to infant feeding and reduction of mother to child transmission of HIV were found to be stressful. It was also disclosed that though the anti-retroviral therapy was effective, psychological burden of the condition persisted.

The HIV positive women were affected by different stressors which are mainly psycho-social and economic in nature. Counseling, advocacy and increased social support are needed for addressing the HIV- related stress burden.

Key Words: HIV related stressors, HIV positive women, coping strategies, social support, Anti retroviral

Word count: 432

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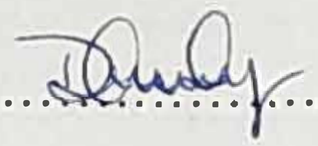
ADEFOLARIN Adeyinka O.

CERTIFICATION

I certify that the work was carried out by Adeyinka Olufolake Adefolarin of the Department of Health Promotion and Education, Faculty of Public Health, College of Medicine, University of Ibadan, Nigeria.



SUPERVISOR

Dr. Oyedunni S. Arulogun, Senior Lecturer

B.Ed, M.Ed, MPH, PhD (Ibadan), FRSPH (UK), CCST (Nig)

Department of Health Promotion and Education,

Faculty of Public Health,

College of Medicine,

University of Ibadan,

Nigeria

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AIDS	Acquired Immune Deficiency Syndrome
ANS	Autonomic Nervous System
ARV	Anti-Retroviral
BP	Blood Pressure
CDC	Center for Disease Control
HAART	Highly Active Antiretroviral Therapy
HIV	Human Immunodeficiency Virus
LEDS	Life Events and Difficulties Schedule
PEPFAR	President Emergency For AIDS Relief
PSS	Perceived Stress Scale
SEPERTATE	Standardized Event Rating System
SLE	Stressful Life Event
SRASE	Subjective Readjustment Adjustment Scale and Estimate
UNAIDS	Joint United Nation Program on HIV/AIDS
UNDP	United Nations Development Program
WHO	World Health Organization

OPERATIONAL DEFINITION OF TERMS

1. Stressors: events that cause mental or physical pressure
2. Coping mechanism: Definite ways of adapting and getting along with unbearable situation or condition
3. Social support: Affect ional and instrumental helps received from people
4. HIV positive women: Any adult female that is HIV positive
5. Partner: A male in sexual relationship with HIV positive women within or without marriage context
6. Emotional stress: Stress related to intrapersonal perception of HIV condition
7. Social stress: stress related to how perception HIV condition affects interpersonal relationships and dealings
8. Instrumental stress: Stress related to difficulty to access to care

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

Stress is simply the body's non-specific response to any demand made on it. It is the "wear and tear" human body experience as it adjusts to the continually changing environment. (Jaffel, South, Flores, Dumke and Segal, 2007). It has physical and emotional effects on human beings and it can create positive or negative feelings. As a positive influence, stress can help compel one to action, this is Eustress (Ezelio and Omoluabi, 1995). As a negative influence, it is called distress; and can result from feelings of distrust, rejection, anger and depression, which in turn can lead to health problems such as headaches, upset stomach, rashes, insomnia, ulcers, high blood pressure, heart disease and stroke (Villena - Mata 2001) When one is faced with an overwhelming pressure, one of these two things will be done, either stay and deal with the stress or run from it, (Fight or flight).

When an event is perceived as stressful (e.g. an emergency, severe pain, anger or tear), the sympathetic division of the autonomic nervous system is activated as the body prepares for action. It prompts the hypothalamus to send a signal to the pituitary gland to release the hormone, corticotrophin into the blood stream. This in turn tells the adrenal glands to release the stress hormones, the glucocorticoids (e.g. cortisol). These give instant energy by causing the release of excessive sugar into the blood stream. The sympathetic nerves instruct the adrenal glands to release the hormones, epinephrine (adrenaline) and nor epinephrine (nor adrenaline). These cause increased heart rate (HR) and blood pressure (BP) to ensure more rapid distribution of oxygen, nutrient and hormones by the blood. If the stressor continues to be present, immune suppression sets in which reduces the system's ability to fight infection and retard disease progression (Segal, 2009)

Similarly, Human immunodeficiency virus and the Acquired Immune Deficiency Syndrome (HIV/AIDS) are immune compromising infection and disease. This pandemic is one of the greatest challenges of our time, it cuts across every facet of life with worst affected being young people and women. HIV/AIDS epidemic is one of the major factors affecting women's health with twenty million women living with HIV and more than two million pregnancies in HIV positive women each year (James 2005). HIV is the virus that finds its way into human blood stream, through exposed mucosal lining and it binds itself to receptors on human T cells called CD4 cells, attacking it by attachment.

Therefore, the immune system is weakened; thereby different types of diseases called opportunistic infections invade the body. Women are among the fastest-growing group at risk for HIV infection (Center for Disease Control 1994) Importantly, women may have shorter survival times than men. S urvival time in women living with HIV has been attributed to more advanced disease staging at the time of HIV diagnosis and medical misdiagnosis (Chu, Buehler, Berkelman. 1990), lower socioeconomic status, (Melnick, Sherer, Louis, 1994) unequal access to HIV treatment, (Ickovics, Rodin, 1992) and biological sex differences (RichardsonL, Shelton, Krailo, 1991).

The presence of both stress and HIV in an individual especially in women who by virtue of roles and physiological make up experience multiple stressors would be very devastating on their health. HIV is a disease with physical and emotional ramifications for all infected individuals (Bennertt, Perkins, Lane, Deer, Brater, Murray, 2001). Therefore, there is need to assess the stress factors, coping mechanism and social support system available to HIV positive women. This study sought to provide answers to these.

1.2 Statement of problem

Recent improvements in combinations of pharmacotherapy and prophylaxis are resulting in increased survival periods in HIV-infected individuals, such that HIV/AIDS is regarded more as a chronic manageable illness rather than a rapidly fatal disease. Hence, the quality of life of those being managed on AIDS has recently become a more pressing concern. HIV/AIDS affects almost every aspect of a person's life and is associated with numerous

stressors including medication side effects, rigid medication regimens, stigmatization, physical symptoms, isolation, and uncertainty (Leserman, Perkins and Evans, 1992; Pakenham, Dadds and Terry, 1996; Pierret, 2000).

In view of these important quality of life issues, it is essential that psychosocial factors which may account for variations in adjustment to HIV/AIDS including physical health be identified. One important psychosocial factor that needs to be attended to in the process of adaptation to HIV/AIDS is stress and coping (Pakenham, Dadds and Terry 1994). However, Semple, Patterson, Temoshok (1993) identified two major categories of stressors among HIV positive women; primary and secondary stressors. Primary stressors are problems arising directly from one's seropositivity while stressful life events and other difficulties occurring in other role areas are defined as secondary stressor.

Primary stressors included both gyneacological problems and general symptoms of HIV infection, for example; fatigue. Secondary stressors are related to child and family, for example; marital partner relations, disclosure of HIV positive status, occupation, arranging time off for medical appointments, economic problems, social network events and death of friends from AIDS. Possibility of violence as a result of disclosure is another stressor, women could be at risk for abuse; emotional, physical or sexual abuse if they have partners whose HIV status was negative or unknown (Gielen, Mc Donnell, Burke, O'Canpo, 2000). Kimerling, Calhoun, Forehand, Armistead, Morse, Mors, (1999) reported that prevention and treatment efforts targeted at the HIV infected women must take into account traumatic stressors.

Clarke (2003) reported that among HIV infected women, the decision to disclose HIV seropositive status is likely affected by perceived stigma. Likewise, these women face the challenge of caring for a child that fails to thrive and suffer repeated illness without apparent explanation. They may spend hours in the hospital with much money seeking care. They may also be blamed by their husbands or mothers-in-law. Lichtenstein (2002) reported that depression is commonly diagnosed in HIV positive women than HIV

positive men because of women's association with moral threat in heterosexual communities. This depression may contribute to the progression of HIV.

In the real sense of it, HIV positive women face multiple psychosocial stressors and they may experience significant psychological distress (Swartz, 1998).Van S.G, Aguirre M, Sarnal, Brecht ML (2002) compared patterns of emotional distress between men and women with symptomatic HIVinfection and examined potential predictors of different levels of vulnerability, women were found to have more AIDS symptoms, poorer functioning and greater distrupctions on physical and psychosocial well being. Women experiencing distress tend to take to dying, use or drug abuse and this in turn results to poor quality of life (Te Vaarwerk 2001). In Nigeria, little is known about the stressors, social support and coping mechanism among women living with HIV

1.3 Justification of the study

Gender has a powerful influence on the kind and intensity of stressors to which people are exposed, the availability of personal and social resources, and the impact of stress on both physical and psychological health outcomes vis a vis a possible increased risk for rapid progression to AIDS specifically among HIV positive women. Women are likely to be exposed to a unique set of stressors which are, for the most part, created or exacerbated by the social and economic conditions of their lives. (Baum and Grunberg, 1991).

The first step toward addressing this specific issue is to identify and describe stressors in the lives of these women.This particular study identified and documented the stress factors, social support and coping mechanism among HIV positive women. It is justified based on the potential it has in providing an evidence based baseline information needed for designing adequate intervention for the psychosocial adjustment of HIV positive women. This study has been able to establish the fact that HIV positive women experience diverse stressors related to their HIV serostatus.

It also established the fact that HIV positive women could identify stress with its signs/effects (which are illneses on their own) and they could equally identify their

stressors. They had sources where they tapped social support from and they adopted diverse ways of coping with stress. The findings enlighten care givers to understand that there are other psychosocial factors that could induce physical symptoms of illness in HIV positive women despite the use of ARV drug. In order to achieve HIV treatment success, the education on identification of stress, positive coping and need for social support cannot be under estimated.

1.4 Research questions

1. What do the HIV positive women understand as stress ?
2. Do they experience stress or not?
3. What were/are the signs of stress they experienced/experience?
4. How are/were they affected by HIV stress factors identified by Kenneth Pakenham?
5. How did they cope/have they been coping with these experiences?
6. What sources of social support do they have?
7. What are the differences in the stressful experiences and coping mechanism among single women, married women, pregnant women and widowed women living with HIV?

1.5 Objective of the study

General objective:

The main objective of this study was to identify and document stress factors, social support and coping mechanism among women living with Human Immunodeficiency Virus (HIV) attending an antiretroviral treatment clinic in a tertiary institution in Ibadan.

The specific objectives:

The specific objectives of the study were to:

1. Identify what HIV women understand as stress
2. Identify types of stress factors affecting women living with Human
3. Immunodeficiency Virus (HIV).
4. Identify the sources of support
5. Identify coping strategies employed by these women

6. Identify HIV specific stress affecting the women as itemised on HIV stress scale

1.6 Research Hypotheses

The following research hypotheses were postulated and tested by this study.

1. There is no significant relationship between stress and marital status
2. There is no significant relationship between stress and age
3. There is no significant relationship between stress and educational status
4. There is no significant relationship between stress and duration of awareness of HIV status
5. here is no significant relationship between stress and spousal disclosure of HIV status
6. There is no significant relationship between stress and partner's HIV status
7. There is no significant relationship between stress and partner's support

CHAPTER TWO

LITERATURE REVIEW

2.1 HIV and AIDS in the world

The acquired immune deficiency syndrome (AIDS) was first recognized as a disease in the early 1980s. Within about five years it became clear that a new epidemic of unprecedented proportions was spreading throughout Sub-Saharan Africa. Destruction of the immune system, the main characteristic of the disease, caused patients to die from a range of opportunistic infections. As the opportunistic infections that occurred reflected the prevalence of given pathogens in the afflicted population, tuberculosis was one of the most common outcomes in Africa. Soon after the recognition of AIDS, a new group of retroviruses, subsequently designated the human immunodeficiency virus (HIV), was identified as the probable cause (Barre-Sinoussi , Chermann, Rey, Nugeyre, Chamaret, Gruest, Dauguet, 1983). Some people were reluctant to accept the evidence that HIV was the cause of AIDS, both in the West and in Africa. Many political leaders also chose to ignore or deny the importance of the expanding epidemic until after widespread transmission of HIV had already occurred. (Duesberg, 1988).

Despite recent improved access to antiretroviral treatment and care in many regions of the world, in 2007 the AIDS pandemic killed an estimated 2.1 million people, including 330,000 children. In 2007, an estimated 33.2 million people lived with the disease worldwide, with an estimated 2.5 million people newly infected in 2007. (Laurent C. Diakhaté N., Gueye N. F. N., Touré M. A., Sow P. S., Faye M. A., Gueye M 2008). UNAIDS (2009) documented that the AIDS epidemic in Eastern Europe & Central Asia is rapidly increasing. In 2008, some 1.5 million people were living with HIV, compared to 900,000 in 2001. AIDS claimed an estimated 87,000 lives during 2008, over three times 2001's figure. The Russian Federation, Ukraine, and the Baltic states (Estonia, Latvia, and Lithuania) are the worst affected, although HIV continues to spread in Belarus, Moldova

and Kazakhstan, and more recent epidemics are emerging in Kyrgyzstan and Uzbekistan. An estimated 940,000 HIV-infected people were living in the Russian Federation at the end of 2007. However, as reporting of HIV cases in many areas of Russia is at best patchy, it is difficult to determine a precise figure. The epidemic in Eastern Europe is primarily driven by injecting drug use, and the criminalisation of this practice makes it difficult to gain an accurate picture of the proportion of drug users who are living with HIV.

Already, more than twenty-five million people around the world have died of AIDS-related diseases. In 2008, 2.7 million people were newly infected with HIV, and 2 million men, women and children lost their lives. 33.4 million people around the world are now living with HIV. HIV is ravaging the populations of several Caribbean island states. Indeed some have worse epidemics than any other country in the world outside sub-Saharan Africa. In the most affected countries of the Caribbean, the spread of HIV infection is driven by unprotected sex between men and women, although infections associated with injecting drug use are common in some places, such as Puerto Rico.

The heterosexual epidemics of HIV infection in the Caribbean are driven by the deadly combination of early sexual activity and frequent partner exchange by young people. A study published in 2005 found that in Trinidad and Tobago, HIV infection levels are six times higher among 15-19 year old females than among males of the same age. In another survey in Barbados, one quarter of 15-29 year old women said they had been sexually active by the age of 15, and almost one in three men aged 15-29 years reported multiple sexual partnerships in the previous year. (UNAIDS and WHO 2006).

Around 2 million people were living with HIV in Latin America at the end of 2008. During that year, around 77,000 people died of AIDS and an estimated 170,000 were newly infected. The HIV epidemics in Latin America are highly diverse, and are fuelled by varying combinations of unsafe sex (both between men, and between men and women) and injecting drug use. In nearly all countries, the highest rates of HIV infection are found

among men who have sex with men, and the second highest rates are found among female sex workers.

In 2008, the Central American nation of Belize has a well-established epidemic, with the adult HIV prevalence above 2%. The virus is mainly spread through unprotected sex, particularly commercial sex and sex between men.Commercial sex and sex between men are the major drivers of smaller epidemics elsewhere in Central America, where national HIV prevalence varies between 0.2% and 1%. Men who become infected via these routes are likely to pass the virus on to their wives and girlfriends.

2.1.1 HIV and AIDS in Africa

It is in Africa, in some of the poorest countries in the world, that the impact of HIV has been most severe. At the end of 2007, there were 9 countries in Africa where more than one tenth of the adult population aged 15-49 was infected with HIV. In three countries, all in the southern cone of the continent, at least one adult in five is living with the virus. In Botswana, a shocking 23.9% of adults are now infected with HIV, while in South Africa, 18.1% are infected. With a total of around 5.7 million infected, South Africa has more people living with HIV than any other country. (WHO/UNAIDS/UNICEF, 2009).

Rates of HIV infection are still extremely high in sub-Saharan Africa, and an estimated 1.9 million people in this region became newly infected in 2007. This means that there are now an estimated 22 million Africans living with HIV/AIDS. In this part of the world, particularly, women are disproportionately at risk. As the rate of HIV infection in the general population rises, the same patterns of sexual risk result in more new infections simply because the chances of encountering an infected partner become higher. (AIDS and HIV information avert 2009)

Although West Africa is less affected by HIV infection, the prevalence in some large countries is creeping up. Côte d'Ivoire is already among the fourteen worst affected countries in the world, and in Nigeria around 2.6 million adults and children are infected with HIV.nfection rates in East Africa, once the highest on the continent, hover above those in the West but have been exceeded by the rates now seen in the southern cone. In

2007, HIV prevalence among adults in Kenya, Tanzania and Uganda exceeded 5%. (AIDS and HIV information avert, 2009).

Not all countries have experienced an increase in HIV prevalence. In Uganda the estimated prevalence fell to around 5% from a peak of about 15% in the early 1990s. This trend is thought in part to have resulted from strong prevention campaigns, and there are encouraging signs of the same effect happening in parts of Zambia, Kenya and Zimbabwe. Yet the suffering generated by HIV infections acquired years ago continues to grow, and a drop in HIV prevalence is generally associated with a massive number of AIDS deaths. Under half of those in sub-Saharan Africa in need of antiretroviral treatment were receiving it at the end of 2008. (UNAIDS2009).

It is widely thought that North Africa managed to sidestep the global AIDS epidemic - perhaps due to its strict rules governing sexual behaviour. However, the latest UNAIDS estimates indicate that 35,000 people in North Africa and the Middle East acquired an HIV infection in 2008, bringing the total number of people living with HIV/AIDS in the Middle East and North Africa to an estimated 310,000. AIDS killed a further 20,000 people in this region.in 2008. (UNAIDS, 2009).

2.1.2 HIV and AIDS in Nigeria

Joint United Nation Program on HIV/AIDS (UNAIDS) (2008) estimated that in Nigeria, around 3.1 percent of adults between ages 15-49 are living with HIV and AIDS. Although the HIV prevalence is much lower in Nigeria than in other African countries such as South Africa and Zambia, the size of Nigeria's population (around 138 million) meant that by the end of 2007, there were an estimated 2,600,000 people infected with HIV. (UNAIDS, 2008). Approximately 170,000 people died from AIDS in 2007 alone. (UNAIDS, 2008)

With AIDS claiming so many people's lives, Nigeria's life expectancy has declined. In 1991 the average life expectancy was 53.8 years for women and 52.6 years for men (WHO, 2008). In 2007 these figures had fallen to 46 for women and 47 for men. Despite being the largest oil producer in Africa and the 12th largest in the world, Nigeria is ranked

158 out of 177 on the United Nations Development Programme (UNDP) Human Poverty Index. (UNDP, 2008). This poor economic position has meant that Nigeria is faced with huge problems. (Energy information Administrato Official, 2007)

2.2 Women and HIV/AIDS

Out of the estimated 39.5 million people living with HIV in 2006, 17.7 million (45%) were women. Women are most severely affected by AIDS in places where heterosexual contact is the dominant mode of transmission (UNAIDS, 2006). According to the WHO (2007), most women become infected through their partner's high-risk behavior, which they have little or no control over. Women who are financially dependent on male partners are at a disadvantage in negotiating condom use. In the United States, up to 950,000 Americans are estimated to have HIV, with 40,000 new infections occurring each year. Among women, minorities, particularly African Americans, are hit by the vast majority of AIDS cases. These women are suffering from rates of HIV infection 10 to 20 times those of white women. AIDS has become one of the leading causes of death among women aged 25-44 years. AIDS has killed more than 20 million people since the first cases were diagnosed in 1981; including 2.9 million in 2003 alone. It is estimated that 37.8 million people were infected with HIV at the end of 2003, with 2.9 million new cases that year. Sub-Saharan Africa is the worst-hit region. In fact, Sub-Saharan Africa accounts for 70 percent of all people living with HIV in the world (www_women_hiv_aids.html 18/03/09) A notable change to the HIV/AIDS statistics over the past few years, however, has been the rapid increase of infection rates among heterosexuals, particularly women. The CDC (2003) estimated 170,679 cases of AIDS and 63,740 cases of HIV infection, respectively, among women in the US. Most alarmingly, women between the ages of 20 and 44 represent the majority of reported HIV and AIDS cases among women (CDC, 2003). Margaret (2003) reported that in January 2002, U.N. Secretary General Kofi Annan announced that for the first time, women represented half of HIV-positive individuals worldwide, and more than half in sub-Saharan Africa. HIV/AIDS had become a generalized epidemic in many African countries, moving from high-risk groups such as sex workers and injection drug users to the general population, largely because of pervasive gender inequality. The Secretary's rallying cry to the international community

stressed that effective HIV prevention programs had to address the realities of women's lives.

Every December 1st. World's AIDS Day is celebrated worldwide to remember the victims of HIV and AIDS, to learn more about the devastating effects of the disease around the world, and to reaffirm the world's commitment to fight HIV and AIDS. Year 2007 theme was ***"Women, Girls, HIV and AIDS"***; a theme that focuses on how the effects of HIV/AIDS have significantly increased among women. (Chikoki, 2007). He further stated that Women now make up half of all people living with HIV worldwide, 57 percent of these women living in sub-Saharan Africa. In that region, women are infected at an earlier age than men, and the ratio of new infections among women compared to men is even higher within the 15 - 24 age groups. Many factors contribute to this problem. They include poverty, social and political instability, violence, lack of access to adequate health care and ignorance of the HIV problem.

Nozipho (2000) reported that Human Sciences Research Council stated that the incidence rates among young women of child bearing age was especially alarming in South Africa. Thomas (2007) also buttress this by reporting HIV incidence among women between 20 and 29 years old as 5.6 percent, this is six times more than in males of the same age which is 0.9 percent. These findings suggest that the current prevention campaigns do not have the desired impact, particularly among young women (Thomas 2007). Further more, the incidence analysis done by the Director of Human Sciences Research Council Prof Thomas (2007) also showed that a substantial number of new non vertical infections have occurred among children in South Africa. A surprising finding was the high incidence among widowed individuals who had remarkably high incidence of HIV of 5.8 percent, especially among women; the study also found that pregnancy was a significant risk factor for HIV positive Women in the 15 – 49 age group who reported a current pregnancy 5.2 percent were found to be newly infected, compared with 3.7 percent in the non-pregnant female population in this age group

Nomende (2007) reported that young women between aged 15 and 24 with HIV infection have increased steadily worldwide, by the end of 2005; 17.5 million women worldwide were infected with HIV. One of the significant disadvantages that confront women is the fact that the male to female HIV transmission occur easily than female to male transmission. Social and cultural factors such as poverty, domestic abuse, sexual abuse and disempowerment especially in developing countries contribute to the spread of HIV in women (CDC 2005). Women are most severely affected by AIDS in places where heterosexual contact is the dominant mode of transmission (Lichtenstein 2002). There is increasing evidence that HIV/AIDS related maternal deaths are escalating considerably and AIDS has overtaken direct obstetric causes as the leading causes of maternal mortality in some areas of high HIV prevalence. (WHO 2008)

NuAkuetteh (2005) stated that in Africa and globally, HIV/AIDS is increasingly having a woman's face (that is, on the increase HIV/AIDS is having identity with women). Not only are women more likely to be living with HIV/AIDS, they are also more likely to be the primary care givers for those who are HIV positive. Gray (1999) revealed that the most difficult aspect of living with HIV infection in women is fear related to disclosure and stigma, fear of dying, limitations due to finances, presence of symptoms leading to wide range of emotions and sexual reproductive decisions.

2.4 Stress

Advanced Learners Dictionary defined stress as mental pressure; pressure or worry caused by the problems of life. Jaffel et al (2007) in her article on stress explained that stress affects the mind, body and behaviour in many ways; she also explained that stress is body's way of responding to any kind of demand. It can be caused by both good and bad experiences. According to Eze (1992) the concept of stress started to gain popularity in the biological and social science in the first half of the 20th century because it provided an explanation for the apparent non-specific response of biologic agent and occurrence of illness as part of the response of people to their social environment. Hinkle (1977) applied the term 'stress' to human behavior and some aspects of physics and engineering. He had, in the 17th century, described stress to mean hardship, straits, adversity or affliction.

Stress therefore, carries with it the connotation of an object (or person) and it denotes force, pressure, strain or strong effort exerted upon a material or person (Eze, 1992). Stress has been described by Sarafino (1998) as a condition that results when person-environment transactions lead the individual to perceive a discrepancy – whether real or not – between the demand of a situation and the resources of the person's biological, psychological or social system. Pinky (2002) defined stress as a physical, chemical and emotional factor that cause bodily tension and may be a factor in disease causation. He added that stress is anybody's way of reacting to emotional or physical strain, and strain is the rate of wear and tear of the body. Similarly, Insel, Roth and Price (2002) described stress as the collective physiological and emotional responses to any stimulus. They further summarized that stress refers to two different things: situations that trigger physical and emotional reactions and the reactions themselves.

Stress has also been seen as a challenge to a person's capacity to adapt to inner and outer demand, which may be physiologically arousing, emotionally taxing, cognitively and behaviorally activating (Western, 1999). When people feel stressed by something going on around them, their bodies react by releasing chemicals into the blood. These chemicals give people more energy and strength, which can be a good thing if their stress is caused by physical danger, but this can be a bad thing, if their stress is to respond to something emotional and there is no outlet for this extra energy and strength. University of Mary land Medical centre (2007) further explained that stress is a psychological and physiological response to events that upset our personal balance in some way. These events or demands are known as stressors. Stressors are usually thought as being negative, such as exhausting work schedule or a rocky relationship. However anything that forces us to adjust can be a stressor, this includes positive events such as getting married or receiving a promotion.

Regardless of whether an event is good or bad, if the changes bring strain on our coping skills and adaptive resources, the end result if the subjective feeling of stress and the body's biological stress response. Insel, Roth and Price (2002) noted that each individual's

experience of stress depends on many factors, including the nature of the stressor and how the stressor is perceived. They further stated that responses to stressors include physical changes, emotional and behavioral responses. A psychologist, Menaghan (1983), described stress as a problematic level of environmental demand on an individual, or a mismatch between environmental opportunities and individuals' needs or goals.

2.6 Stress and women

Tempe (2000) reported that in roles and relationship of women as wives, mothers and employees women explained multiple stressors such as inadequate physical and emotional support from their spouse along with parenting and employee difficulties that contributed to their health problems; Hang et al (2001) identified three factors associated with postpartum stress for women: maternity role attainment, lack of social support and body changes, he concluded that these factors were important predictors of post partum women's health status.

Schulz (2001) reported life stressors associated with economic divestment contributing to the disproportionate burden of disease experienced by African American women residing in urban communities, he also described stressors among these women in terms of financial, work, family, safety, police and other municipal services and disrespect or unfair treatment. Financial, police and safety stress vis a vis unfair treatment were associated with symptoms of depression while others were associated with general health status.

Tempe (2000) explained the interaction among women's stressors, personality trait and their health. Women with medium or high stressors and low assertiveness, low hardiness, or the inability to express their feelings were more likely to report physical symptoms than women who were stronger in their personality traits. He further stated that Nurses should identify women with high stressors and unhealthy personality traits that increase their risk for stress-related illness, and assist these women to modify their stressors or personality traits to enhance their health.

2.3 The relationship between stress and HIV

Cole and Zack (2005) explained the immunosuppressant ability of stress which enables the immunosuppressant ability of HIV. They reported that a stress hormone called norepinephrine alters the function of immune cells, the CCR5 and CXCR4 which are co receptors on the immune cells naturally stir the immune cells to areas where infection or foreign bodies are invading the body, however, they may change function due to stress hormone, thereby altering the body's ability to respond to a wide range of infections beyond HIV. Norepinephrine enables HIV to enter the immune cells more easily and to reproduce more readily. It increases the level of molecules that are co-receptors with CD4 cell, these are C-C chemokine receptor 5(CCR5) and C – X chemoreceptor CXCR4, these are two co-receptors molecules that enable HIV to bind to and invade the T cell .By doing this, it increases HIV's rate of viral replication in the cells it has already infected, this allows it to spread five times more quickly. Therefore, more HIVs get in and more come out resulting in a ten fold increase in the amount of virus produced. Sustained stress erodes immune function and hastens the onset of AIDS (Jeffrey 2000)

However, Cole and Zack (2005) further reported that the higher a man's level of stress is (which was measured by Autonomic Nervous System [ANS], calculation of blood pressure, skin moisture, heart rate and pulse rate at rest) the less he responds to anti retroviral drugs. They measured the ANS against viral load and CD4 count. (Viral load is the count of HIV replicates and CD4 count is the count of how well their immune system was fighting the infection in men taking antiretroviral medication) Men with high ANS, showing high stress level recovered fewer CD4 cells and some continued to lose more CD4 cells despite HAART. This was more in those with high ANS activity, who showed no immune recovery.

Among human immunodeficiency virus (HIV) seropositive (HIV-) individuals there is a wide variation in disease course; some develop symptoms rapidly, whereas others remain free of acquired immunodeficiency syndrome (AIDS) symptoms for long periods of time (ie, 10 to 20 years). The etiology of this variability remains unknown but may be due to some combination of biological and psychological factors (Uchoni, Kiecolt-Glaser and

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Glaser 2003). Laboratory methods that employ psychological challenges to elicit immunocellular responses may clarify pathophysiological links between psychological factors and diminished immunocompetence in HIV disease. For example, the stress reactivity paradigm, which involves presenting stressful stimuli and measuring various stressor-induced physiological changes that follow, has been used to provoke sympathetic activation and examine acute cardiovascular/enumerative and functional immunocellular responses in various healthy and patient populations (Sander,Iciek and Kasprowicz, 2000).

The ability of the immune system to function depends in part on its ability to selectively mobilize an immunocellular migratory response via vascular and lymphatic systems (Ottaway and Husband 1992). Understanding the association between stress and immune functioning in persons with immune-related disorders, such as HIV infection, remains a complex challenge because the extent of disease progression may affect the biomechanisms underlying this association. Disparities found in HIV positive as compared with HIV seronegative HIV negative individuals, for instance, may represent a breakdown in the feedback mechanisms regulating CNS input, sympathetic activation, or endocrine outflow and neuroimmunologic bidirectional communications. Such disturbances may alter acute immune responding to environmental stressors via central-autonomic mediation and have long-term immunologic consequences (Schemenderman, Antoni, Ironson, Klimas, Hurwitz, Kumar, LaPerriere, Brownley and Fletcher 1992).

In the HIV-infected person, concerns about disease progression and long-term survival, stigma, and social mores (that lead to prejudice and abandonment from one's family and social network) depression and anxiety are prominent (Penedo, Antoni, Schneiderman, Ironson, Malow, Cruess, Hurwitz and LaPerriere. 2001, Kimerly 1999). Previously, laboratory reported elevations in state anxiety and cortisol levels in persons awaiting notification of HIV test results (Ironson, LaPerriere, Antoni, O'Hearn, Schneiderman, Klimas and Fletcher, 1990). The predictive association of psychological distress with diminished T-helper and B cell counts in pre-AIDS men and women was also discorvered. (Motivala, Hurwitz, Llabre, Klimas, Fletcher, Antoni, LeBlanc, Schneiderman, 2003). Although a link could not be established between group differences

in stressor-related appraisals and immunocellular reactivity, the finding does not imply that psychological distress is not etiologically related to the development of abnormalities in central-autonomic-immune function.

2.5 Sources of stress

Common sources of stress ranged from physical (such as fear of smoothing dangerous temotional (such as worry over your family or job) the common sources are the following (1) Survival stress, fight or flight, this is common response to danger in all people and animals. (2) Internal stress: this is when we worry about things we can't control or put ourselves in situations we know will cause no stress. (3) Environmental stress: this is a response to things around that cause stress, such as noise, crowding, pressure from work or family. (4) Fatigue and Overwork: this kind of stress builds up over a long time and can take a hard toll on the body, It can be caused by working too much or too hard at job school or home. It can also be caused by not knowing how to manage one's time well or how to take time out for rest and relaxation.(Centre For Idependent living 2005)

This can be one of the hardest kinds of stress to avoid because many people feel this is out of their control (Centre For Idependent living 2005). Bakare (1988) identified sources of stress as environment, interpersonal, personality and organic. According to Bakare (1988), environmental, sources of stress include ecological factors like heat, cold, home and work environment, school and market environment, competition for space and scarce resources, traffic hold ups, injuries and accident. He explain that interpersonal sources involves the association between people or groups of people that bring out such as quarrels, mistrust, conflicts, hatred, lack of social support or excessive protection, bribery, vindication and many other stressors associated with human relationship.

Crider (1983) stated that personality sources, also known as psychological sources, are derived from personal characteristic of the individual. He explained that examples include being unable to reach the level of aspiration the individual sets for him/herself, how the individual views things, high and low esteem, pride and the individual's make-up which conflicts with the environment. Uzoukwu (1992) added that personal beliefs or values,

which may be too strong or too weak to affect individual's mental health, are also included here. The result of certain organic disorders of the body or physiological imbalance of the body could be sources of stress (Bakare, 1988). Examples include injuries, cardiovascular disorders (such as hypertension) and degenerative diseases (such as arthritis, ulcers and paralysis).

Sources of stress enumerated by Twilight (2003) include change, family, relationships and work. They explained that change involves deviation from the norms or usual activities; it could be a welcome or an unwelcome situation. Twilight (2003) described a family as a system where individuals interact. When one member of the family is ill, angry or depressed, the rest of the family, in an attempt to compensate for that member, may be thrown out of alignment and become dysfunctional. Also, when one person in a relationship has a set of implicit, explicit or unrealistic expectation that are in conflict with the other person's expectations, such conflict could be enough to be stressful. Twilight (2003) added that opportunities and responsibilities could be sources of stress if they are not favorable. Lazarus (1986) rightly put it; almost any event of our modern living tends to be stressful to individuals. The degree of stress experienced, however, depends on the individual's perception and coping abilities.

2.5.1 Signs and symptoms of stress

Physical and mental signs of short term stress:

- Audible fast breath
- Sweating
- Coldness of hands, feet or skin
- felling sick
- Tightening ones muscles or making one feel tensed
- Leaving ones mouth dry
- Frequent urination
- Increasing muscle spasms, headaches, fatigue and shortness of breath

Physical and mental signs of long term stress include

- Worrying and feeling anxious
- Feeling out of control. overwhelmed, confused and unable to make decisions.
- Feeling of control, overwhelmed, confused and unable to make decisions
- Experiencing mood changes such as depression, frustration, anger helpless, irritability, defensiveness
- Irritating, overreaction or impatience and restlessness.
- Increasing dependence of food, cigarette, alcohol or drugs
- Neglecting important things in life such as work, school and even personal appearance
- Developing irrational fears of things such as physical illnesses, natural disasters (Lee, 2005) and(Smith, 2009)

2.7 Stress and HIV infection in women

Kimerling, Calhoun, Forehand, Armistead, Morse, Morse, (1999) reported that prevention and treatment efforts targeted at HIV infected women must take into account traumatic stressors and post traumatic stress disorder (PSTD). It was found in his study that the prevalence of traumatic stressors and PTSD symptoms were high among HIV-infected women, traumatic stressors were significantly associated with a lower CD4 to CD8 ratio at one year follow up. Karolym (2004) examined stress related growths' association with affective states, coping, stressor characteristics, individual resources and social resources among women living with HIV/AIDS, most (63%) of the women reported high levels of growth. Stressor characteristics (disease stage, number of physical symptoms, time since HIV diagnosis, self esteem, perceived control, practical support and positive affect) were not associated with growth.

HIV positive women face multiple psychosocial stressors and they may experience significant psychological distress (Swartz 1998). Psychological distress associated with HIV infection may compound the adjustment difficulties and increase the barriers to care associated with living in poverty (Catz 2002). Semple (1993) identified two major category of stressors; primary and secondary stressors: Primary stressors are problems

arising directly from one's seropositivity while stressful life events and other difficulties occurring in other role areas are defined as secondary stressors. Primary stressors include both gyneacological problems and general symptoms of HIV infection for example fatigue. Secondary stressors related to child and family for example marital partner relations, disclosure of HIV positive status, occupation, arranging line off for medical appointments, economic problems and social network events such as death of friends from AIDS. Possibility of violence as a result of disclosure is another stressor, women could be at risk of abuse; emotional, physical or sexual abuse if they have partners whose HIV status was negative or unknown (Gielen 2000).

Van (2002) compared patterns of emotional distress between men and women with symptomatic HIV and examined potential predictors of different levels of vulnerability, women were found to have more AIDS symptoms, poorer functioning and greater descriptions on physical and psychosocial well being. Women experiencing distress tend to take to dying, drug abuse and this in turn results to poor quality of life (Te Vaarwerk 2001). Higher levels of emotional distress were positively associated with post intervention sexual and drug taking risk in HIV positive women (Skerk 2006).

2.8 HIV positive women, disclosure and social support

HIV is an infection with physical and emotional ramifications for all infected individuals, so it is reasonable that the importance of social support would be similar across gender and sexual orientation so its impact on those with HIV may be comparable. However, perception of support has been found (to be predictive of mental health for individuals affected by other chronic illnesses as well) (Bennertt, Perkins, Lane, Deer, Brater, Murray, 2001; Uchino et al., 1996) For example, rates of depression among HIV-positive men and women have been reported to be twice as high as the general population (Atkinson & Grant, 1994; Lyketsos, Hoover, Guccione, Dew, Wesch, Bing. 1996), with rates of diagnosable depressive disorders estimated between 4 and 14% (Lyketsos et al., 1996). Prevalence rates of post-traumatic stress disorder have been reported to be as high as 62% and significantly related to the progression of HIV (Kimerling et al., 1999). Individuals with HIV have also been found to experience higher levels of loneliness than the general

population (Vance, 2006). Managing an HIV diagnosis may be facilitated by social support and this support may be instrumental (e.g. providing transportation or monetary assistance) or emotional (e.g. providing positive feedback or giving advice). Stewart (2005) reported that HIV person who live in rural areas or have limited access to support experience poorer health status and poorer outcomes.

Researchers have examined the role of perceived social support in improving the lives of HIV-positive individuals (Friedland, Renwick and McColl 1996; Hays, Chauncey and Tobey 1990, 1992; Kelly, Murphy, Bahr, Kalichman, Morgan and Stevenson 1993; Leserman J, Perkins DO, Evans D.L. 1992.). Most suggest that social support buffers stress-related or stress-inducing crises, such as depression (Hays et al 1990, 1992; Johnson et al., 2001; Serovich, Kimberly, Mosack, Lewis 2001; Silver et al., 2003; Turner et al., 1993), hopelessness (Johnson, Alloy, Panzarella, Metalsky, Rabkin, Williams and Abramson 2001), physical distress (Leserman et al., 1999), disclosure to sexual partners (Kalichman, DiMarco, Austin , Luke and DiFonzo 2003; Marks, Richardson, Ruiz and Maldonad 1991) and psychological well being (Hays et al., 1990; Serovich et al 2001). However, the social stigma of living with an HIV diagnosis may contribute to a lack of connectedness to support persons and lack of adherence to antiretroviral therapy (Ware, Wyatt and Tugenberg 2006).

It is important to note, however, that perception of social support may differ from the actual availability of social support. In one study on women with HIV, Serovich et al (2001) found perceived social support was more significant than perceived availability of support in predicting mental health outcomes. In another study HIV-positive gay men reported larger social support networks than women, but women reported higher satisfaction with their perceived social support than men (Semple, 1996). This suggests that mere network size may not be the only factor predictive of satisfaction.

One deficiency in the current literature base is that many studies investigating perceived versus available social support have featured predominantly gay male samples (Kadushin, 1999) Interestingly, this issue has not been well investigated with men who identify as

straight or bisexual and the samples of women have been too small to make conclusions. What role, if any, does gender or sexual orientation have on the perception of social support? Burgoyne and Saunders (2000) found no significant relationship between perceived and actual social support for newly-diagnosed HIV-positive individuals but the majority (85%) of the sample were identified as either gay or bisexual men. In fact, only two heterosexual men and 15 women were included in the analysis; therefore, any assumptions about gender or sexual orientation based on these results are tentative at best. Previous researchers have found that sexual orientation influences the association between perceived social support and psychological well-being (Carels, Baucom, Leone, Rigney 1998) but little is known about how sexual orientation or gender might affect the association for available social support.

Little attention has been given, however, to the possible influence of social support on survival time among individuals living with HIV.However, it has been discovered in the light of research that social networks prolong survival among individuals with cancer, (Farzadegan 1998, Renoylds 1994 and Speigel 1990) cardiovascular disease, (Anderson 1996, Kawachi 1996 and Thomas 1997) and hemodialysis (Christensen, Wiebe, Smith, et al. 1994). Whether social ties affect survival outcomes in HIV is an especially relevant question because women have been described as being more isolated from community support than gay men affected by the AIDS epidemic. (Semple et al 1993, Russell and Smith 1998) For HIV-positive women, perceived support from family was paramount. This could be due to the fact that women may be socialised to expect support from their family members versus friends. Family members may collectively offer support that is perceived by women to be beneficial. Friends may offer encouragement in ways that women do not distinguish as social support, thus affecting the perception.

This may explain why perceived support from friends was predictive of less loneliness over the past few years. It is curious that availability of family for support had no impact on women's mental health indices and is worthy of further investigation. (Mc Dowel 2007) The role of family size also bears mention. In multivariate mod eling, the fewer children in a family, the longer a woman tended to survive. Although it has not been

predicted that family size would be a significant factor in survival, these findings may be interpreted in light of the literature on social support. Studies of social support in seropositive gay men have suggested that social contact may serve as a buffer against stress (Strow 1989, Zich and Temoshok 1987). However, for HIV positive women, other investigators purport that "social ties may also bring social strains." Social strain refers to the additional burdens that can be laden upon seropositive women who frequently serve multiple social roles as mothers, spouses, employers, and careproviders. The demand of these roles, particularly motherhood, was evident as stressor among them.

Despite the fact that many women verbalized a maternal drive to survive for the sake of their children (e.g., "I've got to be here to help Reggie start walking"; "I will survive to see a cure for my baby Anne"; "I plan to live for Maria's graduation from college"), an increased number of children in the family did not favorably influence life expectancy. Future research investigating the quality of family relationships may be an important next step in understanding this outcome (Jenkins 1996). Gray (1999) reported in his study that eighty women described the most difficult aspect of living with HIV infection; these were revealed in four themes fear, limitation, symptoms and emotions. Fears related to disclosure and stigma were more frequently described more than fears of dying, limitations reported were financial, sexual reproductive and physical. The physical limitations were related to the presence of symptoms leading to a wide range of emotions. Clarke (2000) reported that among HIV-infected women, the decision to disclose HIV seropositive status is likely affected by perceived stigma; however, as the level of perceived stigma increased the level of disclosure and psychological functioning decreased, the relationship between stigma and distress was significant.

2.9 Coping with stress

Health information publications (2005) explained that managing stress involves learning about how stress affects the mind and body. It also involves how to identify the warning signs of stress, how to develop good stress-management techniques and when to seek professional help. Coping is an individual's secondary appraisal of what can be done in the presence of a threat or challenge (Bakare, 1986). Coping is also defined by Stone and

Neale (1984) as efforts, both action-oriental and intra-psychic, to manage (i.e master, tolerate, reduce or minimize) environment and internal demands and conflicts, which tax or exceed a person's resources. Similarly, Taylor (1998) defined coping strategies as specific effort both behavioural and psychological that people employ to master, tolerate, reduced, or minimize stressful events. Compass, Malcarno and Fondacaro (1988), indicated that coping skills are those resources available to individuals for solving problems or meeting their needs. They felt that coping skill are discrete yet, some depend on others to resolve problems. This means that some coping skills on their own can resolve the need in presence of stress factor, while some might work in combination with other coping skill.

It is hard to keep stress responses under control; the reason is that stress works in a cycle. Avoidance of some of the most stressful thoughts such as dwelling on the worst, jumping to conclusions, exaggerating, being envious, being paranoid, worrying about what every one else is thinking, worrying no matter what it is about, use up a lot of energy and can tire one out (Woods and Dimond 2002). Wang (2007) explained that problem-focused coping behaviour were potentially more adaptive in relation to psychological health at the lower and moderate stress level than at the extreme stress level. Holaham (2005) derived from his study that there are linkages in the role of avoidance coping in prospectively generating both chronic and acute life stress and the link to future depressive symptoms.

Coping strategies could be problem-focused or emotion-focused; active or avoidant (Folkman and Lazarus, 1980; Taylor, 1998). In problem-solving coping, efforts are made to act on the source of the stress to alleviate or change the stressful circumstances while the emotion-focused coping efforts are made to regulate the emotional consequences of stressful or potentially stressful events (Folkman and Lazarus, 1980) Taylor (1998), summarized active coping strategies to be either behavioral or psychological responses designed to change the nature of the stressor itself or how one thinks about it, whereas avoidant coping strategies lead people into activities such as alcohol use or mental states such as withdrawal that keep them from directly addressing stressful events.

Evans and Galls (1988) described three modes of coping as avoidance, confrontation and resignation. They defined avoidance coping as a mode of coping which does not deal with the situation directly; it is not action-oriented. This type of coping is also referred to as 'substitute at response' or 'flight response' because the individual with a problem tends to divert his energies and resources away from confronting the problem (Bakare, 1988). Bakare (1986) maintained that though the individual may sometimes leave the presenting problem untouched to tackle another problem which might offer him more satisfaction. some stressful situation are successfully solved through this mode. Also, it is sometimes called direct attack, (Bakare, 1986). Confrontation is an action-oriented mode of coping because cause of problems are sought and solved directly. The resigned mode of coping, also known as submission response, freeze response or inert response (Kanner, Coyne, Schaefer and Lazarus, 1981), is where the individual does not attempt to solve the problem, but submits to or accepts the problem. Sometimes this individual suffers in silence, these modes of coping were scaled on a Likert-like scale by Evans and Gall (1988), adding 'anger' and complaint' on the scale They however explained that in real life situation, this scale does not run on a continuum, meaning that each subscale cannot be said to be better than others without considering all other factors.

Holahan and Moos (1987) believe that active coping strategies, whether behavioral or emotional, are generally better ways to deal with stressful events while avoidant coping strategies appear to be psychological risk factors for adverse responses to stressful live events. According to Kanner, Coyne, Schaefer and Lazarus (1981) and Bakare (1986) confrontative or direct attack response, traditionally, is often the most effective and satisfactory type of coping response. This is followed by avoidance which, as a rule, tends to be used in combination with confrontation for best results. Bakare (1986) continued that resigned mode seems to be the least effective and satisfactory, because the temporary escape lasts for only a short period before the stressor resurfaces. However, choice of coping strategy depends on the personality, type of stressful event and resources available (Kanner et al, 1981; Bakare, 1986).

2.10 Coping with stress among HIV positive women

To attenuate psychological distress in HIV positive African America mothers should focus on increasing social support, promoting active coping and decreasing avoidant coping (Prado 2004). He further explained that this may be accomplished, in part, by promoting involvement in religious institutions and practices to better understand how women with HIV infection deal with the stress of their disease. Gray (2002) examined the relationships between stressors, resources for managing stress and mastery over stress in eighty HIV-positive women. He found that mastery over stress was significantly and negatively correlated with interpersonal conflict, perceived low level of social interaction and low level of social support have been found as significant predictors of distress in HIV positive women (Hudson 2001). It has been widely suggested that highly active antretroviral therapy (HAART) has improved the psychosocial aspects of living with HIV/AIDS. Although HAART may have extended survival for many HIV-infected individuals, they have not resolved equivalent psychosocial difficulties that HIV-infected women in the HAART era continue to experience.

HIV infected women in the HAART era reported health related stress, stress from stigma and disclosure. They viewed HIV as having caused them harm, they reported that their health is due to chance and they reported more use of maladaptive forms of coping for example, escape-avoidant coping (Siegel 2005). In a study involving people living with HIV in Central China, moderately high level of perceived social support was reported, their stress symptom checklist score indicated high levels of psychological distress. The most frequently used coping style was confrontation acceptance, resignation and avoidance were significantly correlated with high distress (Sun 2007).

Positive thinking has been associated with reduced psychological distress while avoidance was associated with higher level of anxiety, however, the use of problem solving coping strategies has been found to be associated with reduced anxiety (Chan 2006). High levels of spirituality, mastery of stress and HIV-related social support have been reported as considerable strengths in women living with HIV in New York (Simoni 2000). The individual woman faced with an HIV diagnosis must find ways to overcome the stigma of

the diagnosis and adopt using individual coping responses. Social support and social networks are viewed as resources for women who struggle to survive with the diagnosis of HIV seropositivity (Andrew 1995).

2.11 Measurement of stress and coping

Many researchers have criticized instruments used in the measurement of stress and coping because of some deficient areas in the instruments (Cooper, 1988). In the absence of a most efficient instrument, most researchers resort to the widest and oldest way of measuring levels of stress with life events (Uzoukwu, 1992). Cohen (2000) summarized measures of psychological stress as checklist measures of major life events which contain a list of major stressful life events that occur in people's lives like death of loved one. He used interview measures of major life events which involved intensive personal interviews using qualitative probes to specify more precisely the characteristics of like events believed to produce stress.

The two major interviews are Life Events and Difficulties Schedule (LEDS) and Standardized Event Rating System (SEPRATE). Types of measures under SEPARATE are Chronic Stress Measures, Daily Event Measures which assessed stressful experiences on a daily level with self-report using a daily diary or record and Perceived Stress Measures using psychological stress theory which focuses on peoples' appraisal of events as threatening or challenging. The instrument most often used, is the perceived Stress Scale (PSS) developed by Cohen .Karmarck and Mermeistein, (1983), it is a measure of the degree to which situations in ones life are appraised as stressful. The fourth type of SEPARATE interviews is Negative affect measures. Here the appraisal of threatening is presumed to cause a negative affective response that provides the proximal link to behavioral and biological responses thought to be responsible for illness susceptibility.

The instrument, Stressful Life Events (SLE), developed by Rahe and Homes in 1964 has been used among veterans (Rahe and Homes, 1967).The instrument originally had 43 stressful items weighted and unweighted (desirable and undesirable).The respondents were expected to indicate how stressful these situations were to them on a four-pont

Likert-like scale. This scale initially received criticisms by scholars (Lazarus, 1966) but soon, other researchers used modified versions of it (Pearlin and Schooler, 1988), giving other names to it. Pearlin and Schooler (1988) also used a combination scale called the Subjective Re-adjustment Scale and Estimate (LEIS).

In the same way, Taylor (1998) summarized instruments of coping as ways of Coping Measure (Folkman and Lazarus, 1980 and COPE).Ways of coping is an empirically defined inventory of specific ways in which people might cope with stressful events. Individuals are asked to designate or respond to a specific stressor and indicate the degree to which they have utilized each particular coping method to deal with it. In COPE, items are created to tap a predetermined set of coping strategies. It has a constant set of scales and items from which respondents are asked to designate how they typically react to stressful events.

The extent to which anger, escape, complain, avoidance, fighting, hitting, abusing, drinking and smoking excessively and use of drugs are used depends on modern research (Ramsey and Greenberge, 1988). Much of the research investigating the effects of stress on adjustment to HIV/AIDS has been guided by the Lazarus and Folkman (1984) stress-coping model. The stress and coping model applied to chronic illness is based on the premise that adjustment to illness-related stress is determined by illness parameters and the mediational processes (cognitive appraisal, coping strategies and coping resources (e.g., social support) (Maes, Leventhal, and Ridder 1996). Several studies provide support for the utility of most elements of the model in explaining adjustment to HIV/AIDS concurrently (e.g. Peterson, Folkman and Bakeman, 1996; Pakenham and Rinaldis, 2001) and longitudinally (e.g. Mulder, Antoni, Duivenvoorden, Kauffmann, and Goodkin, 1995).

However, the measurement of HIV/AIDS stress has been problematic; hence, the purpose of Pakenham et al (2002) study is to develop a measure of stress specific to HIV/AIDS. Stress has been shown to be related to health damaging behaviours (Martin,Dean Garcia,and Hall,1989; Thompson, Nanni, and Levine,1996.), lower social support (Martin

et al., 1989), a reliance on emotion-focused coping (Nott and Vedhara, 1995), and poorer adjustment in persons with HIV/AIDS (e.g., Peterson et al., 1996). With respect to adjustment, stress in HIV symptomatic (Crystal and Kersting, 1998) and asymptomatic people has been shown to be related to higher levels of psychological distress in gay men (Blaney, Goodkin, Morgan, Feaster, Millon, Szapocznik and Eisdorfer,1991). African-American gay/bisexual and heterosexual men (Peterson et al, 1996), intravenous drug users (Grassi, Righi, Makoui, Signinolfi, Ferri, and Ghinelli, 1999), adolescents (Rotheram-Borus, Murphy, Reid, and Coleman, 1996), and women (Anderson, 1995, 1996) in both longitudinal and cross-sectional research.

The evidence for the effects of stress on physical health outcomes of HIV-positive individuals is more conflicting. While some studies have found stressful life-events to be unrelated to disease progression (e.g., Kessler, Foster, Joseph, Ostrow, Wortman, Phair, J. and Chmiel 1991; Mulder, Antoni, Duivenvoorden, Kauffmann, and Goodkin 1995), other studies have found stress measured as daily hassles (Evans and Gall 1998), negative life-events (Leserman et al., 1999), or bereavement (Kemeny and Dean, 1995) to be associated with disease progression over 3- to 5-year periods. One methodological limitation of this body of research which may account for some of the conflicting findings is the variations in the operationalisation of the construct stress, and the relevance of stress measures to the type of stress experienced by HIV-infected individuals (Crystal and Kersting, 1998).

With respect to the former, research has operationalised stress as negative life-events (Kessler et al., 1991; Irving, Bor and Catalan,1995; Mulder et al., 1995; Nott and Vedhara, 1995; Peterson et al., 1996; Rotheraum-Borus, Murphy, Reid, and Coleman 1996; Thompson, Nanni and Levine 1996; Evans et al., 1997; Byrnes, Antoni, Goodkin, Efantis-Potter, Asthana,, Simon, Munajj,, Ironson, and Fletcher, 1998; Crystal and Kersting, 1998; Leserman et al., 1999), distress (Grassi et al., 1999), physical health parameters, including CD4 cell count or stage of illness (Crystal and Kersting, 1998), discrete HIV-specific events, such as the number of lovers or friends who were diagnosed with or died of HIV/AIDS (Kessler et al., 1991), and threat appraisal (Anderson, 1995; Vedhara and Nott, 1996).

With respect to the relevance or sensitivity of stress measures to the type of stress experienced by people with HIV, numerous researchers have recommended that disease-specific stress instruments are needed to advance our understanding of how illness-related stress affects adaptation and disease progression (e.g., Nott and Vedhara, 1995). Diseases differ in the adaptive tasks they present, and if stress measures are to be tailored to the specific demands of an illness, disease-specific stress measures are required (Maes et al., 1996). HIV/AIDS is associated with a range of stressors some of which are common to many chronic illnesses and may be experienced within the general population (e.g., relationship difficulties, distressing emotions, suicidal thoughts, loss of job, and changes in self-perception (Pakenham et al., 1996; Taylor and Aspinwall, 1993).

However, there are numerous HIV/AIDS specific stressors which affect HIV-infected individuals, particularly homosexual men, including social isolation, multiple bereavements, stigma and rejection related to seropositivity and sexuality (Pakenham et al., 1996). Much of the published literature investigating stress in HIV/AIDS has utilized established generic life-event scales (Byrnes et al., 1998), modified versions of these inventories (Irving et al. 1995; Mulder et al., 1995; Nott and Vedhara, 1995; Petersonet al., 1996; Rotheraum-Borus et al., 1996), or structured interview schedules (Evans et al., 1997; Leserman et al., 1999). Although those measures that have been adapted for HIV/AIDS research are more relevant to the target population, the new items added to these measures have not been derived from a systematic qualitative examination of the types of events perceived by people with HIV/AIDS to be stressful. Several researchers have developed life-event scales specifically for their HIV-related studies.

However, these measures and the generic scales adapted for HIV/AIDS research have not undergone thorough test development strategies, and consequently no validity or reliability data have yet been published to support the use of these inventories (Kessler et al., 1991; Thompson et al., 1996; Crystal and Kersting, 1998). Single HIV/AIDS-specific indices of stress have also been used such as CD4 cell count, stage of illness (Crystal and Kersting, 1998; Grassi et al., 1998), and the number of AIDS related deaths (Kessler et al.,

1991). However, these measures are not representative of the range of stressors encountered by this population. Hence, the purpose of Pakenham (2002) study was to develop a measure of HIV/AIDS-specific stress that addresses some of the methodological shortcomings of many of the above-mentioned scales. An additional problem with most of the life-event scales used to measure HIV/AIDS-related stress is that they only assess whether an event has been experienced, not whether the event is perceived as stressful or distressing.

In order to accurately assess the role of stress in the process of adaptation to HIV/AIDS, it is important to differentiate between two stress-related concepts: stressful life events and the stress that results in accordance with how these life-events are appraised (Maes et al., 1996). Stressful life-events are environmental demands, such as the characteristics of the illness and associated stressors of living with HIV/ AIDS that have the potential for arousing threat (Lazarus and Folkman, 1984), whereas appraisal has been defined as an individual's subjective interpretation of a stressful life-event. When confronting environmental demands, individuals evaluate whether the demands pose a potential threat, or challenge (primary appraisal), and whether they have sufficient control over the situation (secondary appraisal). If an illness-related demand is appraised by an individual as taxing or threatening, and limiting opportunities for personal growth, and/or as uncontrollable, the event is likely to be perceived as stressful (Lazarus and Folkman, 1984).

Measuring both of these components (the stressor and appraised stressfulness) of the stress-coping process is required in order to elucidate the role of stress in adaptation (Herbert and Cohen, 1996). The aim of Pakenham et al (2002) study was to develop an instrument that assesses HIV/AIDS-related stress called the HIV/AIDS Stress Scale. The instrument included both HIV/AIDS-specific stressors and respondent's subjective appraisal of the stressfulness of these. The scale is derived from an HIV/AIDS Problem Checklist which was developed from extensive qualitative and quantitative data (Pakenham et al., 1996),and has been shown by Pakenham and colleagues (Pakenham et

al., 1994,1995a) to be related to stress and coping variables in HIV-positive gay men at various stages along the disease continuum.

2.12 Conceptual frame work

Ecological model and Social network by McLcroy (1988) and Cohen, Kaplan, Manuk (1994) respectively will be used to explain the study Ecological model explains the use of the concept of levels.

2.12.1 The Ecological Model

The model explains that analysis of problems must occur at five levels (intrapersonallevel, interpersonal level, institutional level, community level and public policy). In order to identify appropriate causes of problems as well as appropriate solution, and changes. Ecological Model is intended to make researcher see beyond a more traditional focus of individual behaviour change and blaming a victim for a health problem. It encourages analysis that can result in strategies that changes social groups, organization, communities and policies not just individual. This model explains the concept of HIV stress scale by Pakenham et al (2002) used for this present study

At the intrapersonal level, The HIV stress scale by Pakenham et al (2002) documented that The existential and emotional challenges associated with HIV/AIDS have also been well documented in the literature (Davies, 1997) and findings from the his study suggested that the Emotional/Existential dimension of HIV/AIDS-related stress includes intrapersonal concerns which include concerns about death, religion, grief/bereavement, a range of distressing emotions and 'coming to terms'' with the illness. The characteristics of the individual such as knowledge, attitude and behaviour come into play. How do the HIV positive women themselves perceive HIV? Their attitude and their personality may exaggerate the effect of HIV issues thereby inducing stress response.

At the interpersonal level, the influence of significant others is analyzed. This involves the relationship with family members, neighbors, friends, acquaintances and contacts at work. A woman, whose status is known among any of the above mentioned, will certainly experience a level of unpleasant experiences that may lead to worry. The most traumatic

experience could be that in-laws get to know her HIV status and husband has negative HIV test result. This may lead to marital break up, then, she may be left alone with the care of baby if she has one. The social dimension of HIV/AIDS stress has been identified by others both quantitatively (e.g., Nott and Vedhara, 1995) and qualitatively (Pakenham, 1998).This is related to the interpersonal and community level of ecological model. Findings from the study of Pakenham et al (2002) suggested that stress at the interpersonal level (social stress) tends to be the more troublesome dimension of HIV/AIDS stress. The social stress dimension of the HIV/AIDS stress scale includes difficulties associated with revealing one's HIV status, isolation, confidentiality, stigma, discrimination, employment and interpersonal relationships

At the Organization level, Church and other religious bodies may decide not join a HIV negative man with HIV positive lady in marriage. Therefore, they may insist that intending couple should do premarital HIV test. Hence, HIV positive single lady will be full of worries of who to marry. On the other hand, organizations like school, hospital and welfare association may be friendly to HIV positive women by giving them support. This is because knowledge and awareness have increased but reverse may be the case in the community

At the community level, community is the group of people to which an individual belong to, taking into consideration the cultural norm of the group. The most popular perception of HIV in the community is that it is caused by promiscuity. Therefore it is difficult for HIV positive women to save her face in the community where people are not enlightened.

At the policy level, the Instrumental Stress dimension of Pakenham et al (2002) HIV stress scale has similarity with policy factors and some of organizational factors in this ecological model, these include the day-to-day practical difficulties associated with managing HIV/AIDS: including financial, transport, treatment, time management, and health care system problems. Different companies have different rules also, despite this, government can still over rule such policies to favour People Living with HIV. There can be better policies by government ensuring employment for HIV positive women. Also

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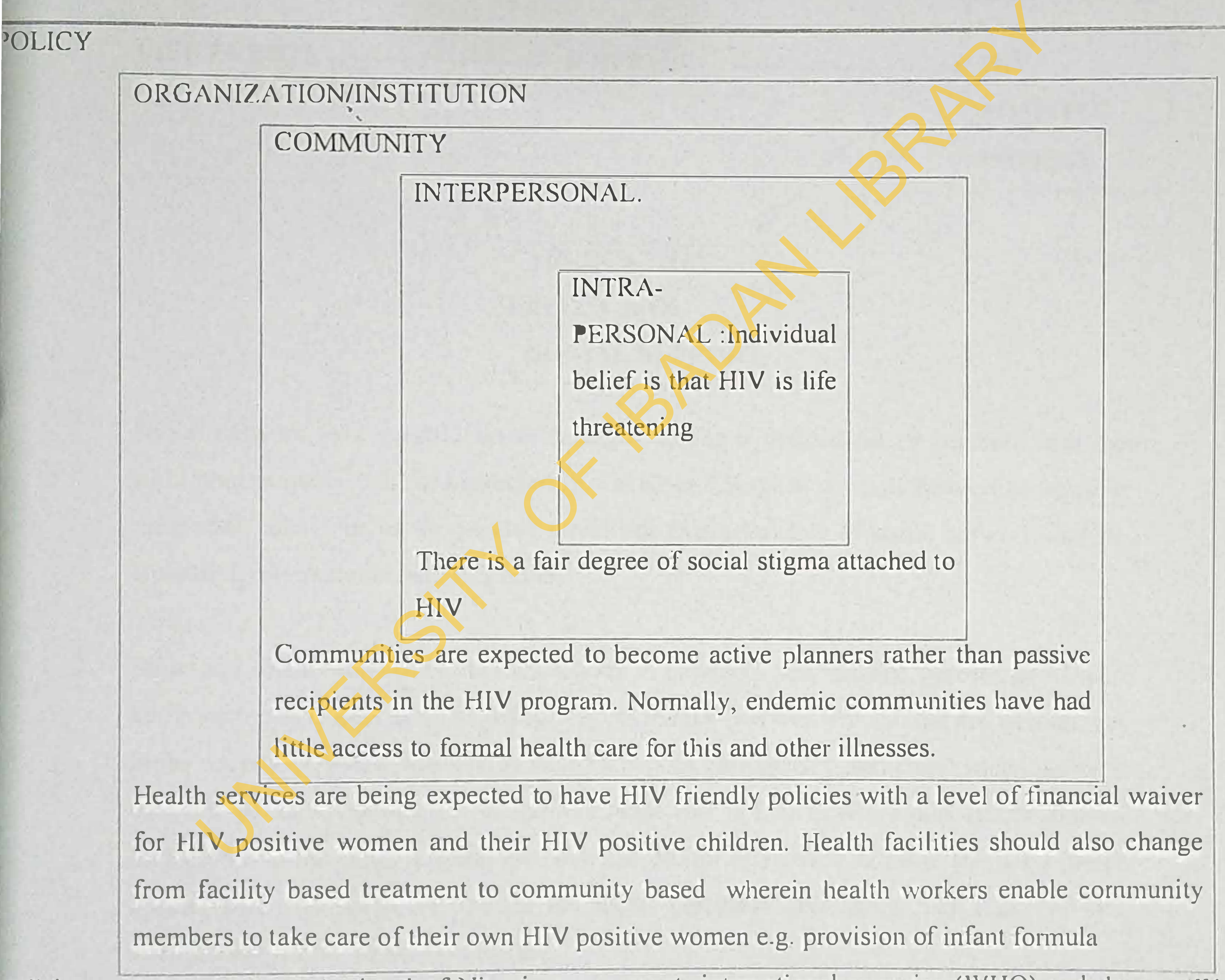
ARV drug availability in all states is another important policy to put in place, so that women will travel less, especially, during pregnancy, with child and during illness. Most of them tell lies all the time at their work places for traveling every month. These are stressful situations

Fig 2.1 Ecological model explaining stress factors in HIV positive women



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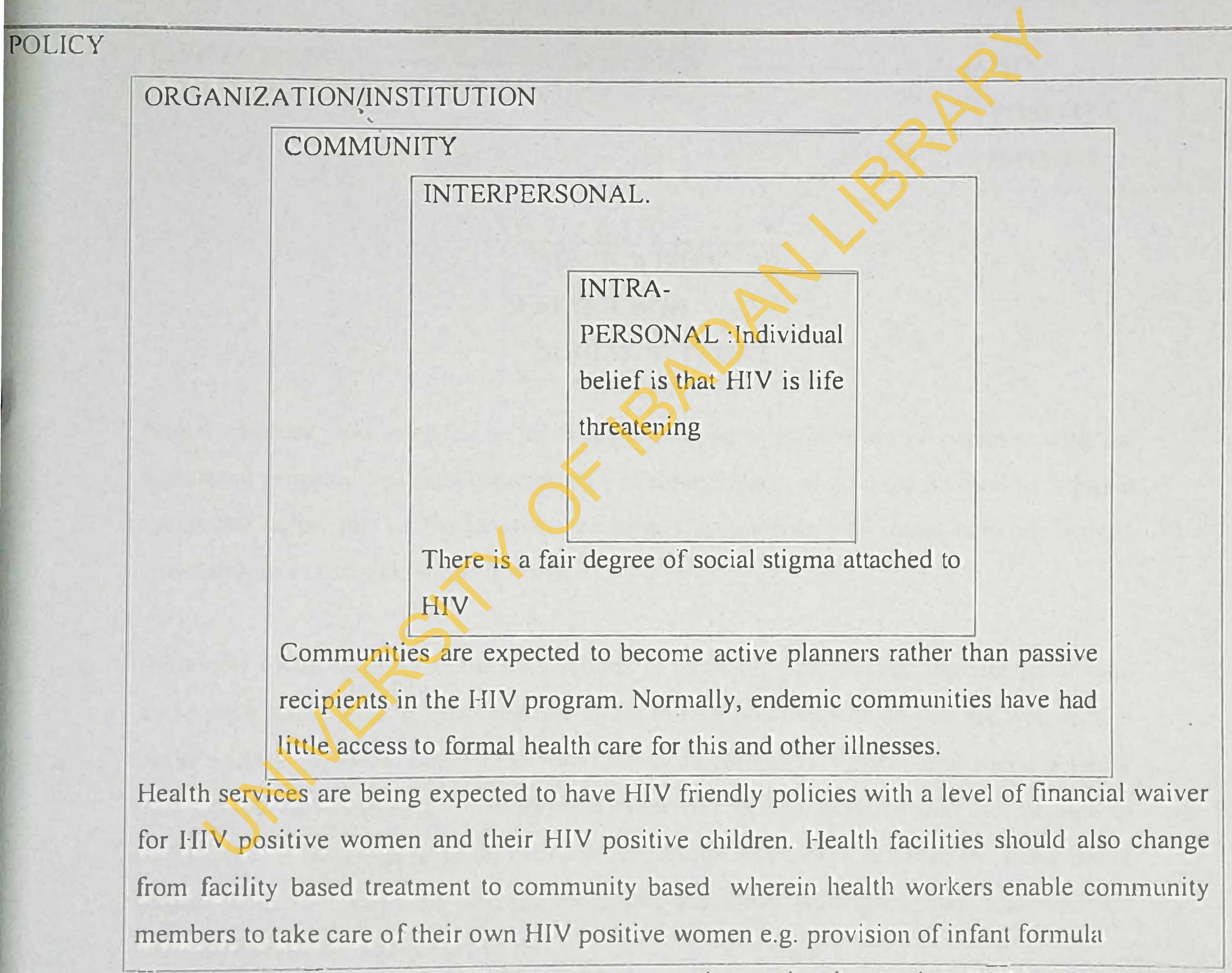
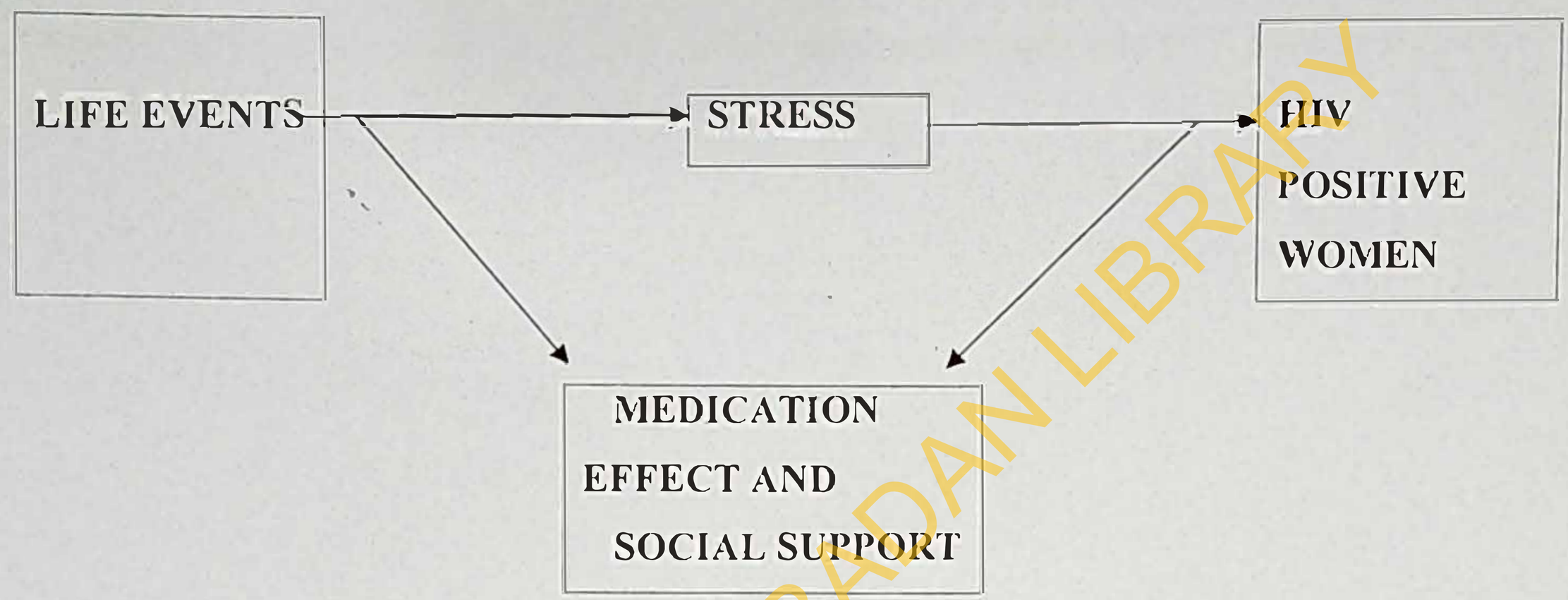


2.12.2 Social Network Model

The social network model was developed by Cohen, Kaplan, Manuk (1994) to explain the relationship between social support and coping with specific stressor. Social networks mediate between the individual and the wider environment and that mediation can either reduce stress or ameliorate its effect.

Fig 2.2 Social Network



Social network is a specific set of linkages among a defined set of persons, with the additional property that the characteristics of these linkage as a whole be used to interpret the social behaviour of the persons involved. Characteristics of social network include structural, interactional, and functional.

Structural social network is the connections in network, size, density, percentage of who know each other. This at times induces stress in HIV positive women that are well known in the society or whose husband is well known. In case of HIV, structural social network may not be an advantage, for example a nurse that is HIV positive may not be able to access care in the same hospital as those that do not work there because she has a direct contact with the place, on the on the hand, her close colleagues may make private arrangement for her to access her care.

Interactional network is the nature of relationships, frequency of interaction, and reciprocity, extent of support given and received. HIV positive Women can have this kind of support in the support group they give it and equally take it from one another

Functional network is the new social contacts, maintenance of social identity. A well adjusted HIV positive woman can maintain social identity without feeling out of place among her friends such a can equally give support to those that are just knowing their HIV positive status, new contacts that have better understanding can help HIV positive women live positively by reducing stress

CHAPTER THREE

METHODOLOGY

3.1 Study design

The research was a descriptive survey consisting of utilized qualitative and quantitative research methods.

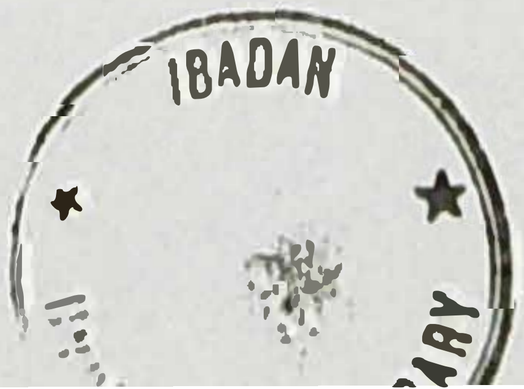
3.2 Study location description

This study was carried out at President Emergency program for AIDS Relief (PEPFAR), University College Hospital (UCH) site Ibadan, Oyo State (PEPFAR). The study site is one of the many HIV treatment centers in Nigeria. It is situated behind United Bank of Africa inside University College Hospital premises. It was established in 2005.

At the time of the study, the clinic had patient load of 7000 of which 4,670 (66.7%) were women. The program recruits an average of thirty new patients every day and about 100 women came for drug pick up and routine investigations daily.The categories of services accessed by the patients at the clinic include; confirmatory test, routine investigation, drug pick up and emergency care. Visit schedule for drug pick up is done monthly and routine investigations are conducted every three months and six months, depending on the recruitment criteria. Others are unscheduled visits. There are two batches of patients' flow at the clinic; the early comers and late attendees; the early comers are attended to at nine o'clock while the late attendees are attended to at twelve o'clock. Different registers (books that contain names of daily patients attendees) for drug pick up, complaints, routine investigations and confirmatory test) are placed at the clinic for record purpose.

3.3 Description of target population

For this study, HIV positive women attending the PEPFAR clinic constitute the target populatron. The women attending the clinic cut across different tribes, age ranges, educational qualifications and social status.



3.4 Inclusion criteria

This study captured only HIV positive women. These were the women who were present at the clinic for drug pick up or for routine investigation during the period of the study.

3.5 Exclusion criteria

The survey excluded women who were at the clinic for complaints, those who were ill and those whose serostatus were yet to be confirmed. It also excluded those that already participated in the focus group discussion in order to eliminate bias.

3.6 Sample size

The sample size was calculated based on the underlying assumption that all HIV positive women do experience stress because HIV infection being an incurable infection, it has stress inducing potentials. The sample size was determined by calculation with Epi Info version 6

The population size was	4670
Expected frequency was	50%
Confidence At 95%	355

The expected frequency 50% prevalence was assumed because there was no literature on prevalence of stress among HIV and non HIV positive women. The sample size at 95% confidence level, 355, was the most acceptable. This sample size was increased to 400 during the study in order to take care of incomplete questionnaires. Four questionnaires were not completed; only 396 questionnaires were useful for analysis.

3.7 Sampling technique procedure

A three stage sampling technique was used for this study. Registers of patients for drug pick up and routine investigations for each day were purposively selected based on the inclusion and exclusion criteria. In the first stage, females were sorted out from the drug pick up registers, in the second stage focus group discussants that were identified by their clinic numbers were removed to eliminate bias and thirdly, systematic random sampling was used to select the potential respondents for each day all through the period of the

study. Stud y instrument was administered to o nly consentin g r espondents among the selected.

3.8 Instrument for data collection

For the qualitative method, Focus Group Discussion (FGD) guide was used. The FGD guide asked certain research questions such as, the meaning of stress as understood by discussants, narration of experiences of general stress, signs of stress as experienced by discussants and different stressful experiences and coping mechanism adopted among single women, married women, pregnant women and widows as a result of HIV status? A rappateur and recorder was available for documentation throughout the period of the qualitative reaserch.

The quantitative method adopted the semi-structured questionnaire for interview. The instrument was developed from extensive review of literature, FGD report and adapted HIV stress scale by Pakenham and Rinald. The semi-structured questionaire was divided into six sections namel y: Section A with questions on sociodemographic data which included name, highest level of education, age, marital staus and religion (see appendixIII) section B asked questions about the history of awareness of HIV serostatus and section C asked questions about experiences of signs of stress in the last one month. Section D was a Likert scale of HIV specific stressful life events the respondents experienced since the history of their HIV seropositivity. It ranged from 'Very stressful' (the situation bothers one a lot, it annoys one greatly. One thinks about it most of the time). 'Moderately stressful' (the situation worries one sometimes. It makes one to give a serious thought of how to cope with it). 'A little bit stressful' (the situation borders one a little and with time you shall get over it). 'Not stressful' (one has become used to the situation or it does not bother you any more) to 'not applicable' (the situation does not occur nor apply to you)

The scale has three subheadings; Emotional/Existential stress (stress related to intrapersonal perception of HIV condition), Social stress (stress related to how perception HIV condition affects interpersonal relationships and dealings) and Instrumental stress (stress related to getting easy access to care) Section E asked questions about coping

strategies they usually employed in dealing with the stressors. It has check list as follows; 'Acceptance' (accept the situation as if is, that there is nothing you can do about it). 'Confront' (one tries to solve the problem directly). 'Anger' (one becomes easily annoyed over the situation; one abuses others or even break or damage things). 'Avoid' (one looks for other ways out of the situation e.g. one stays away from public gatherings in order not to hear side talks. 'Blame' (one keeps explaining the cause of ones situation). 'Cry' (one is emotionally down and you shed tears). 'Wishful thinking' (one fills her mind with desirable thoughts). Section F asked questions on other specific coping strategies.

3.9 Validity of instrument

Validity is described as the ability of an instrument to measure the factors that are expected to be measured (Key, 1997). The questionnaire was reviewed by cauleague and supervisor and five questionnaires were administered in house among People living with HIV before the pretest. In order to ensure that responses were valid, check questions were also used. The variables of interest were arranged into different sections on the questionnaires in order to bring out clear responses according to the objectives. The semi structured questionnaire was translated to Yoruba language for ease of administration considering that the target population was Yoruba speaking population.The outcome of actual pretest done at General Hospital Ogbomoso among the support group of people living with HIV (PLWH) was used to check the appropriate translation of certain word into Yoruba language and backtranslation was done to ensure no meaning was lost. It was also used to check how long it would likely take to administer one questionnaire and the acceptability of the instrument by the respondents.

3.10 Reliability of instrument

Reliability describes the accuracy or precision of a research-measuring instrument on repeated trials.

After the pretest of the semistructured instrument, reliability was calculated statistically using reliability analysis. The Cronnbach's alpha values for the scoring of frequencies of mental and physical signs of stress were 0.862 and 0.735 respectively. The Chronbach's

value for the HIV stress scale was also 0.844. These showed that precisions were high, the instrument has internal constitency and it is reliable.

3.11 Method of data collection

Both qualitative and quantitative methods were employed for data collection. For the qualitative method, focus group discussion was carried out and for the quantitative method an interview using a semi-structured questionnaire was carried out.

The focus group discussion guide was pre-tested among ten discussants in a population with similar characteristic to the target population; General Hospital Ogbomoso among the support group of people living with HIV (PLWH) (Two widows, two married, two separated, two pregnant women and two singles) volunteered after taking permission from them. The outcome of the discussion served as a guide in adding more probing questions.
The survey semi-structured questionnaire was also pre-tested among the same support group people excluding those that participated in the focus group discussion. The questionnaires were administered to thirty five women; this was approximately the ten percent of the of the calculated sample size.Two research assistant functioned as rappateur and recorder operator.The result were transcribed by both the researcher and research assistants

Six females, who are People Living With HIV (PLWHAs) with at least Ordinary Diploma academic qualification or its equivalent were employed as research assistants for the study. The research assistants underwent 5-day training on how to administer the questionnaires and how to do focus group discussion. The training involved practical sessions as rehearsals, PLWHAs support group leaders were used as respondents during the training. The fourth and fifth day were used for corrections and clarification. Only three out of the research assistants were involved in the actual focus group discussions. They functioned as note takers and tape recorder operators and also did the transcription of the recordings.

The support group leaders assisted in arranging volunteers that are outspoken for the discussion. Six sessions of the group discussion took place with eight discussants in each. The groups were homogenous, two sessions for married women, three sessions for pregnant women and one session for combination of widows and singles because they were not many. The researcher carried out the focus group discussion during the support group meetings at the clinic; it was done in a circular sitting position to encourage participation from all. The patients were very relaxed in the meeting; each session took an average of fifty minutes.

The survey took a period of six weeks from July to August 2008 to be completed.Three research assistants were available with the researcher for the survey. Averages of eight questionnaires were administered in a day and the number increased as the research assistants became familiar with the questions. The researcher checked the administered questionnaires each day for any error. After the targeted number of questionnaire had been administer, the researcher prepared coding guide that the research assistants used in coding open ended questions and serial numbers were put on the questionnaires for easy data entry.

3.12 Ethical consideration

Approval was obtained from the Harvard PEPFAR management UCH ARV clinic, where the actual study was carried out and approval was also obtained from the support group management of Harvard PEPFAR ARV clinic, General Hospital Ogbomoso, where the pre test study was carried out among the support group members. Approval was obtained from Ethical Review Committee of the College of Medicine. Consent form that gave relevant information on the voluntary nature of the study, benefits, risks and confidentiality of information collected was attached to each questionnaire for respondents (see Appendix 1).Respondents found experiencing stress during the time of the study were refered to the adherence counselors at the clinic.

3.13 Data analysis

The data obtained from the focus group discussions was transcribed and summarized accordingly. This was reported along side with the survey result in thematic format. The data generated from the questionnaire were coded and analyzed using a SPSS 15 package. Sociodemographic data were analysed using frequencies and the hypotheses (the relationship of stress and other factors such as socio demographic factors) were tested using ANOVA. The HIV stress scale was analysed by calculating the mean stress score. (Mean ± 1SD) was used to categorise level of stress. The subjects with stress scores below (mean-1SD) were classified to have low stress while those with scores above (mean+1SD) were classified to have high stress.The stress scores between the low and the high stress were regarded as moderate stress. The Ways of Coping Checklist was analysed using frequencies.

3.14 Limitation of the study

The selected potential respondents asked for inducement before consenting to participate in the study, however, only the the respondents that consented without inducement participated in the study,this lengthened the duration of the study .Some respondents chose to do self administration of the questionaire, some completed it well, some did not respond to certain questions while very few did not complete at all, however, the excess number of questionnaires beyond calculated sample size admistered, has taken care of this limitation. Both tape recording and taking written notes were used during the focus group discussion because the discussants did not speak out their minds seeing the recorder, despite that permission was taken from them.The way out was to use both and hide the recorder.

CHARPTER FOUR

RESULTS

Both the qualitative (FGD) and quantitative (survey) results are presented in this chapter. Section A consists of the qualitative findings while section B is the survey result.

Section A: Qualitative Findings

A total of six FGDs were carried out among various sub-segments of women living with HIV. These comprised of groups of non-pregnant married women, pregnant women, women widowed by HIV infection and single women. The ages of these categories of women ranged from 22-38 years. Of the married women, 12 had the same serostatus with their partners, 25 were sero discordants, and partner of 1 pregnant woman had not done his HIV test.

Meaning of stress to the discussants

The discussants were asked what stress actually meant to them. All the respondents mentioned what they understood as stress: These included discomfort, disturbance, lack of peace or rest, excessive thinking, sadness, heavy worry, something that borders ones mind, being tired out, overworked, hungry or over thinking, wound of the heart and troubled mind. They all agreed that stress does not just happen but it is caused by certain events or occurrence.

General experiences of stress among the discussants

When respondents were asked about their past or current stress experience, situations that triggered off stress were listed. These situations include death of a loved one, failure in academic examination, conflict with in-law, conflict with husband and accepting HIV positive result. The singles and widowed women mentioned carrying out financial burden alone, not finding assistance, and disappointment from fiancé or husband

General experiences of signs and symptoms of stress

In response to the question on how they knew they were stressed, signs and symptoms pointing to stress were mentioned. The discussants listed feelings they have had as a result of stress, which included disturbed mind, being half conscious, absent mindedness, depression, sadness, headache, fatigue, loss of appetite, dizziness, tiredness, body itch, eye itch, aggression, sweat, sleeplessness, fear, feeling sick, itching and weight loss

Coping with day to day stress among discussants

When asked about coping strategies employed in dealing with the different stress situations identified, the discussants mentioned praying to God concerning the matter, singing praise to God, watching television , thinking, crying, accept it that it is from God, preaching to ones self, discussing the matter with a trusted person and sleeping. The singles and widows mentioned counseling, watching comedy, listening to radio, listening to music, four of the discussants mentioned prayer, mixing with people that are happy, talking to ones self, support from people and accepting fate

How discussants became aware of their HIV positive status

Discussants were able to recall how and when they got to know about their HIV status.They got to know their HIV status between year 2002 and 2008. Majority of the married non pregnant discussants got to know their HIV status during pregnancy. One of the married got to know her HIV status after an accident; one knew during her baby's illness in her first marriage. One particular woman knew her status when she was about to marry. Only one woman among all had the test done voluntarily.

On collecting HIV positive result, those that got to know during pregnancy and the one that knew voluntarily had the natural fear of what 'if it is positive' before they opened the result. The one whose child was ill never thought of what result could be. She said "*my major concern was the recovery of my baby because the illness was very terrible to the extent that there was no diagnosis until it was revealed that I am HIV positive, it was a relief mixed with sadness for me*" The one that had an accident did not give it a thought of what the result could be.The one, whose child was ill was not offered pre test counseling,

while others were offered. Those that were offered were prepared and they just had the natural fear. During the collection of result, it was traumatic for all of them; the HIV positive result was unexpected. It came as a shock to all. All of them reported that they were post test counseled. Three out of those that knew in 2008, just got to know the same month that this Focus group discussion was done.

Widows got to know their statusas a result of sickness, death of husband, pregnancy and death of child. All the singles knew their status because of their sicknesses. All these prompted them to do the test. Among the widows some experienced unexplainable weight loss; only one woman experienced scratching of body as a result of stress.

Signs of stress discussants experienced as a result of awareness of HIV status.

Various signs were summarized here; the discussants could say categorically that these signs of stress were as a result of knowing their HIV status. Signs reported were sleeplessness, fear of symptoms of AIDS, fear of death, fear of future, weight loss, loss of appetite, headache, and fatigue.

Discussants were able to recall issues about their status that was very emotional. The married non pregnant discussants said that when they collected their results, they were filled with the thought that death has come, they explained that there was intense fear of death, concerns about not breastfeeding which is a way to reduce the mother to child transmission was another burden they bore, disclosure was a very tough decision to take as it might break her home, the thought of stigmatization brought the fear of how to live on. Some of them that were offered pretest counseling said that they were indifferent, only one said "*I believed the result was a mistake because I was sure of myself but later accepted it*'.

One while crying said "*I denied for almost a month even despite the fact that my husband is also positive, I could not accept it. There was a cousin of mine who was ill as a result of the same HIV, I could not take her to PEPFAR clinic because she would tell people in the village, and she eventually died. Her death really pained me but I could not help her*'.

Among the singles and widows, those that their status were not known through sickness reported fear, fear of death and fear of other things they could not define at that time. Only one participant who was single mentioned that she was already knowledgeable about HIV so she already guessed that she could be HIV positive.

The specific issues about disclosure of HIV status

Different experiences were shared concerning their experiences with the disclosure of their status. All the married non pregnant discussants had disclosed their status to their partners. One of the discussants who is with her second husband narrated her story that the first husband left her because of her status and she was able to disclose her status to the second husband with the assistance of counselor. She said "*I waited and prayed to God for HIV positive man so that disclosure and living would be pleasant for me and it happened like that*"

One of the concordant who was in her third marriage narrated her ordeal in the second marriage." *I experienced violence and torture, my second man was HIV negative, I married a man before him who died, it was in the second marriage that I got to know about my status, the first person I disclosed to was an uncle who stigmatized me, somehow, my husband got to know because our baby was ill at that time. He used to beat me and he abandoned us till the baby died, after, I ran away from him. I met this present husband in the bus, we used to board the same bus to the PEPFAR clinic so we became friends and I am happily married to him now. I never knew I could see a better day. Actually this is my third marriage*".

The discussants that disclosed said that disclosure was difficult. The reasons for the disclosing their status were: they trusted their husbands that they will support, some said that they were sure of themselves and others mentioned that they disclosed in order to save the life of their husbands. Those with discordant results said they disclosed to know the partners' HIV status too. One of them said "*I thought he would react negatively when he knew that our results were discordant but to my surprise he has been very supportive*".

Others with discordant results could not state categorically if their partners were not unsupportive or not.

The specific fears reported by the pregnant discussants were fear of rejection from husband and family. Only fifteen discordant out of the seventeen disclosed to their partners. Few of them claimed to have partners' support while only two opened up that their partners and the family stigmatized them. One woman said her husband has not tested yet he was supportive because he assumed he was also infected. Three out of the four women who had husband with positive HIV status reported that the partners were supportive.

The widows reported that it was when they were diagnosed that they really understood what illness killed their husbands. Nine out of the thirteen singles and widows knew their HIV status through sickness therefore, members of family knew automatically. The other four women reported that disclosure was very tough. They mentioned that they had to think deeply of trusted people they could disclose to before they did. Those people they disclosed to were; nieces, brothers, half sisters, younger sisters, husbands, uncles, family members and friends.

Stress of living with HIV across the married, widowed and single women

Various experiences of stress as a result of living with HIV were narrated by the discussants. Some said that going to the clinic for treatment is very stressful, while not breastfeeding was embarrassing. They also mentioned that embarrassment from staff at the clinics were stressful as staff used to address patients as if they were disturbing them. Two discussants mentioned that taking care of positive baby is very stressful, where husband and children are equally infected; getting money to take care of them is stressful especially during sickness. Not having money to buy food, having second baby is challenging when it comes to the lie to tell people on has chosen formular feeding in order to reduce the risk of HIV infection in children. Often times, neighbours insisted on breast feeding.

A widow who had remarried among the discussants mentioned that she experienced fear of who to remarry to. One woman who had discordant result to her husband's said that, not disclosing ones HIV status to partner was very stressful she said "*I did not have rest of mind, it was killing. I had to dare every consequence and disclose to my partner*". Another four women with discordant results mentioned that fear that husband may marry another wife really stressed them; another five women (discordant) said they were not afraid, that HIV is not a threat to their marital relationship. All married women with children said that awaiting the HIV test result of their baby was very stressful. Twelve women already had the result of their babies; four did not have result yet.

The report from the pregnant women whose partners were negative was that the partners were not supportive at all while the concordant partners were supportive .They all reported that the issue of not breast feeding is the most stressful because it exposes ones secret and the society is now aware that a woman who is not breastfeeding is likely to have HIV. The mothers, two of them, that were pregnant of their second baby after the knowledge of HIV status reported that they believe that formula is inferior, however, when baby clings to breast naturally it is painful to face the reality that one has decided not to breastfeed. The stress of preparing the food at night is what any mother choosing infant formular will face. Five of the pregnant discussants said "*taking decision on the prevention of mother to child transmission of HIV is very stressful*".

The widowed discussants mentioned that lack of support, secrecy about HIV status, joblessness and no strength to do hard were the major factors that were causing serious stress for them in living with their HIV positive status. The singles reported feeling of separation. fear of how to disclose their HIV status to suitors, fear of getting somebody of their choice to marry and loneliness as their major stressors in living with HIV.

Many of non pregnant married discussants were indifferent to being called PLWHAs while the pregnant discussants said that being called PLWHAs made them to feel uncomfortable and they did not believe that they should be given a special name because

of HIV. Surprisingly all the discussants in the widow group did not know the meaning of PLWHAs. Since they did not know the meaning, they could not feel it.

The women further spoke extensively concerning child bearing decisions. Majority of the non pregnant discussant said the stress attached to their status would change their decision about number of children they would have loved to have while the pregnant said it does not change their decision (most of them were pregnant of first or second baby). The widows could not answer this question because they were still thinking of survival; the singles also said that they could not answer the question. The widow and single group were asked whether they would still want to marry despite their status, to this question, the widows said it was help they wanted not marriage partner. The singles said they wanted to marry, preferably a partner who is also HIV positive.

Stress related to getting social support.

Majority of the non pregnant married discussants said that if husband is not supportive, it is very stressful. Not all of them have partner support; however, all of them mentioned that they had family support. Similarly, the pregnant discussants, those that have partners with HIV negative result said that if husband is not supportive, it is like hell is let loose on one, but family support ameliorated the burden in a way. All the widows said that not having source s of support is very stressful. The singles disclosed that their family members are fully supporting them.

Stress related to accessing treatment

Many of the discussants reside in Ibadan and most of them were house wives. The non pregnant discussants only complained of difficulty in getting transport fare to go for clinic appointments. They also complained that the health workers at the clinics were not warm enough and these attitudes were adding to their stress. They mentioned that the clinic staff treated patients as nobody, they used tribalism to attend to people at the clinic, and caring for every little illness of the baby is very stressful.

The pregnant discussants all supported the point made by one of them who said that traveling down to collect drug for those living far away and for those living in Ibadan to find excuses at the place of work is stressful except for those that are doing their personal business. Similarly, the singles and widows all mentioned the fact that some people who travel down to collect drug are faced with the risks of accident and highway robbery.

Disscusants were probed about ARV and the stressful experiences. The response to this particular question was unanimous as they all said '*taking drug cannot put an end to stress experiences, so long cure has not been found*' They also mentioned that no matter how long one has lived with the virus it does not end the stressful experiences, it is just that adjustment to the condition becomes better.

Ways of coping with HIV stress among the women

Diverse ways of coping with HIV stress were mentioned but there was an observation during the discussions that many of the discussants could readily discuss about how they were stressed but never gave it a thought what help them to cope until they were probed. Among the non pregnant married women, four mentioned that partner's support has really helped them to cope. All of them stated that snapping at neighbours that would want to interfere when formular feeding their babies was a method they adopted when they were nursing their babies. They also said that they chose to confront issues as they presented themselves. Ten of the women mentioned counselors' intervention; those already on treatment said that they chose to see taking the drug as duty so as prevent with boredom.

The pregnant discussants who have attended the support group reported that it has helped them to cope and that meeting a number of other people that are equally infected has really helped them to be well adjusted. Those in concordant union found support from their partners, while the discordant found support from their own family members

The responses of the widows and singles' are listed as follows: eating well, consoling oneself, prayer, hope for cure, belief in God's word, seeing oneself healthy, watching

films, support from family, and ensuring being in the company of others to avoid loneliness.

Section B: Result of survey

4.1.1 Socio-demographic characteristics of respondents

The socio-demographic characteristics of the respondents are presented in table (4.1). Their ages ranged from 18 to 65 with a mean age of 34.8 ±9.0 years. Almost half 183 (46.8%) of the respondents had their ages between 30-40 years (see table 4.1a)

More than half, 248(62.6%) of the respondents were married, a large majority of the respondents 174(43.9%) had secondary school education and 300 (75.7%) respondents had one occupation or the other. Table 4.1b shows the details of the demographic distribution of the respondents

Table 4.1a: Socio-demographic characteristics of respondents

Socio demographic characteristics of respondents	**Frequency N=396**	**%**
***Age(in years)**		
Below 20	5	1.3
21-30	131	33.1
31-40	183	46.2
41-50	54	13.6
51-60	12	3.0
>60	6	1.5
No response	5	1.3
Marital status		
Married	248	62.6
Widowed	58	14.7
Separated	34	8.6
Divorced	4	1.0
Single	52	13.1
***Type of marriage**	**N=281**	
Monogamy	194	69.0
Polygamy	87	31.0

***Type of marriage only applied to the married and the separated, *Age (in years) was not known by 5 respondents**

Table 4.1b: Socio-demographic characteristics of respondents

Socio-demographic characteristics of respondents	**Frequency (N=396)**	**%**
Highest Level of Education		
No formal Education	42	10.6
Primary	51	12.9
Secondary	174	43.9
Ordinary National		
Diploma	72	18.2
Degree	47	11.9
Technical School		
Certificate	10	2.5
Occupation		
Office workers	54	13.6
artisan	246	62.1
unemployed	91	23.0
student	5	1.3
Religion		
Christianity	261	65.9
Islam	131	33.1
Traditionalist	4	1.0
Tribe		
Yoruba	326	82.7
Igbo	41	10.4
Hausa	05	1.3
Others (Irobo,efik,igala)	24	5.6

4.2 Respondents' awareness of HIV status

One hundred and forty four (36.4%) respondents got to know their HIV status in the preceding year. The mean duration of diagnosis of HIV was 2.9±2.2 years while the mean duration of ARV use was 2.2±1.6 years. Majority of the respondents 366 (92.4%) had access to counseling services, Table 4.2 shows the details about respondents' awareness of their status

Table 4.2: Respondents' awareness of HIV status

History of HIV status	Frequency N=396	%
Duration of awareness of HIV status (years)		
≤ 1 yr	144	36.4
2-3	159	40.2
4-6	75	18.9
6-above	18	4.5
Access to counseling service		
Pretest		
Had Pre test counseling	328	82.8
No Pre test counseling	68	17.2
Posttest		
Had Post test counseling	366	92.4
No Post test counseling	30	7.6
Duration of ART use (Years)		
<1yr	66	16.7
1-2yrs	141	35.6
>2yrs	123	31.0
*Non ART use	66	16.7
Mean duration of HIV diagnosis (years)	2.9±2.2	
Mean duration of use of ART (years)	2.2±1.6	

* Non ART use is HIV positive people not eligible for ART.

4.3 Spousal issues and stigmatization among respondents

Two hundred and sixty two (66.3%) respondents disclosed their HIV status to their partners, while 133 (33.6%) did not disclose to partner. Twenty nine (21.8%) reported no partner. The reasons for non disclosure were stated by only those that had partners. The reasons for nondisclosaure include inability to predict the outcome of disclosure 39 (29.3%), the rest are shown on the table. Partner status, pattern of partner's support and experience of stigmatization among respondents are also shown on table 4.3

Table 4.3: Spousal issues and stigmatization among respondents

Issues related to spouse and stigmatization.	Frequency	%
Reasons for non spousal disclosure N=133		
I cannot predict the outcome, he may leave me for another woman	39	29.3
We are not together	33	24.8
I will tell him later, he is not around now.	7	5.2
It is personal	3	2.3
Nothing	20	15.0
I don't feel it is right	1	0.8
Because of baby's death	1	0.8
No partner	29	21.8
Partners' status N=396		31.6
Positive	125	25.8
Negative	102	5.1
Indeterminate	20	30.2
Unknown	120	7.3
No steady partner	29	
Partner's Support		
Very supportive	181	45.7
Partially supportive	69	17.4
Not supportive	47	11.9
Indifferent	30	7.6
*Unsure	40	10.1
No partner	29	7.3
***Experiences of stigmatization**		
Experienced stimatization	98	24.7
Not experience stigmatization	298	75.3

*Unsure: respondents could not categorically state if partner was supportive or not.

*Types of stigmatization experienced by respondents were not probed into

4.4 Reported signs of mental and physical stress among respondents

Different signs of mental and physical stress were reported by respondents. Reported mental stress signs include worry and feeling anxious 207 (52.3%) and loss of objectivity 161(40.7%). Physical stress reported include head ache 253 (63.9%) and decreased sex drive 219 (55.3) table 4.4 shows the rest. Only 5(1.3%) experienced at least a single sign of stress.

Table 4.4: Reported signs of mental and physical stress among respondents

Signs of stress experienced by respondents	Frequency (%) **N=396**
Signs of mental stress	
Worry and feeling anxious (Inability to concentrate)	207 (52.3)
loss of objectivity (Seeing only negative ,Urge to cry at inappropriate times,neglecting impotant things like work school and appearance)	161 (40.7)
Developing irrational fear or repetitive thought e.g fear of illness or death)	160 (40.4)
Feeling of out of control (Difficulty in making decision, confusion, Lack of confidence)	157 (39.6)
Mood change (Repetitive thoughts ,Moody/depressed, Angry ,Feeling of separation from others)	155 (39.1)
Memory loss	149 (38.0)
Thoughts of suicide	48 (12.1)
Signs of physical stress	
Headaches	253 (63.9)
Decrease sex drive	219 (55.3)
Muscle tension and pain	202 (51.5)
Change in appetite	198 (50.0)
Weight gain or loss	165 (41.7)
Fatigue	150 (37.9)
Sleep disturbances	119 (30.1)
Chest pain	68 (17.2)
Irregular heartbeat	60 (15.2)
Raised blood pressure	47 (11.9)
Asthma or shortness of breath	39 (9.8)

4.5 Prevalence of stressors on HIV stress scale

The stressors among the respondents were assessed using the HIV stress scale. On this scale were three categories of stressors; emotional, social and instrumental stressors. The assessment of the prevalence of these stressors showed that on the emotional stress category, difficulty in coming to terms with HIV status has the highest prevalence of 83.8%, followed by social stress category of which difficulty in telling others about their HIV status (76.8%) had the highest prevalence and on the instrumental stress category financial difficulty had the highest prevalence of 53.5%. The rest are shown in table 4.5a and 4.5b below.

Table 4.5a: Prevalence of stressors on HIV stress scale

HIV stress factors	**Frequency N=396**	**Prevalence %**
EMOTIONAL/EXISTENTIAL STRESS		
Difficulties in coming to terms with your HIV status.	332	83.8
Concerns about death related to HIV/AIDS.	210	53.0
Feeling sad because of HIV Status	195	49.2
culty with treating HIV related symptoms or illness.	152	38.4
Paying too much attention to bodily functions or change.	141	35.6
Grief /bereavement related to HIV/AIDS.	122	30.8
Religious difficulties /stigmatization from religious settings related to HIV/AIDS	42	10.6

Table 4.5b: Prevalence of stressors on HIV stress scale

HIV stress factors	**Frequency N=396**	**Prevalence %**
SOCIAL STRESS		
Difficulties in telling other of your HIV/AIDS status	304	76.8
Sexual difficulties related to HIV/AIDS.	129	32.6
Keeping to oneself because of HIV Status.	129	32.6
Future planning difficulties related to HIV/AIDS.	115	29.0
Being very careful in order to Reduce the risks of infection.	93	23.5
Discrimination/stigma concerns related to HIV/AIDS.	87	22.0
Difficulties in getting job because of HIV Status.	67	16.9
Suicidal thought/attempts related to HIV/AIDS.	49	12.4
Having problems with spouse or family member or neighbour because of HIV/AID	45	11.4
INSTRUMENTAL STRESS		
Financial difficulties related to HIV/AIDS.	212	53.5
Transport difficulties related to HIV/AIDS	142	35.9
Difficulties with accessing HIV treatment.	124	31.3
Boredome related to HIV	112	28.3
Difficulty with health care system	66	16.7
Increased drug/alchohol intake because of HIV/AIDS thoughts	28	7.1
Mean stress score	(22.7±14.5)	

4.6 Level of stress among respondents

The level of stress among the respondents is shown in Fig 4.1 below. The range of the HIV stress scale is obtained using formular mean±1SD (22.7±14.5). Therefore, (22.7-14.5) = 8.2 and (22.7+14.5) = 37.2. Below 8.2 is regarded as low stress, between 8.2 and 37.2 is regarded as moderate stress while above 37.2 is regarded as high stress. Few of the respondents 42(11.0%) experienced low stress, majority 300 (76.0%) of the respondents were found within moderate stress, while 53 (13.0%) respondents were found to have experienced high stress

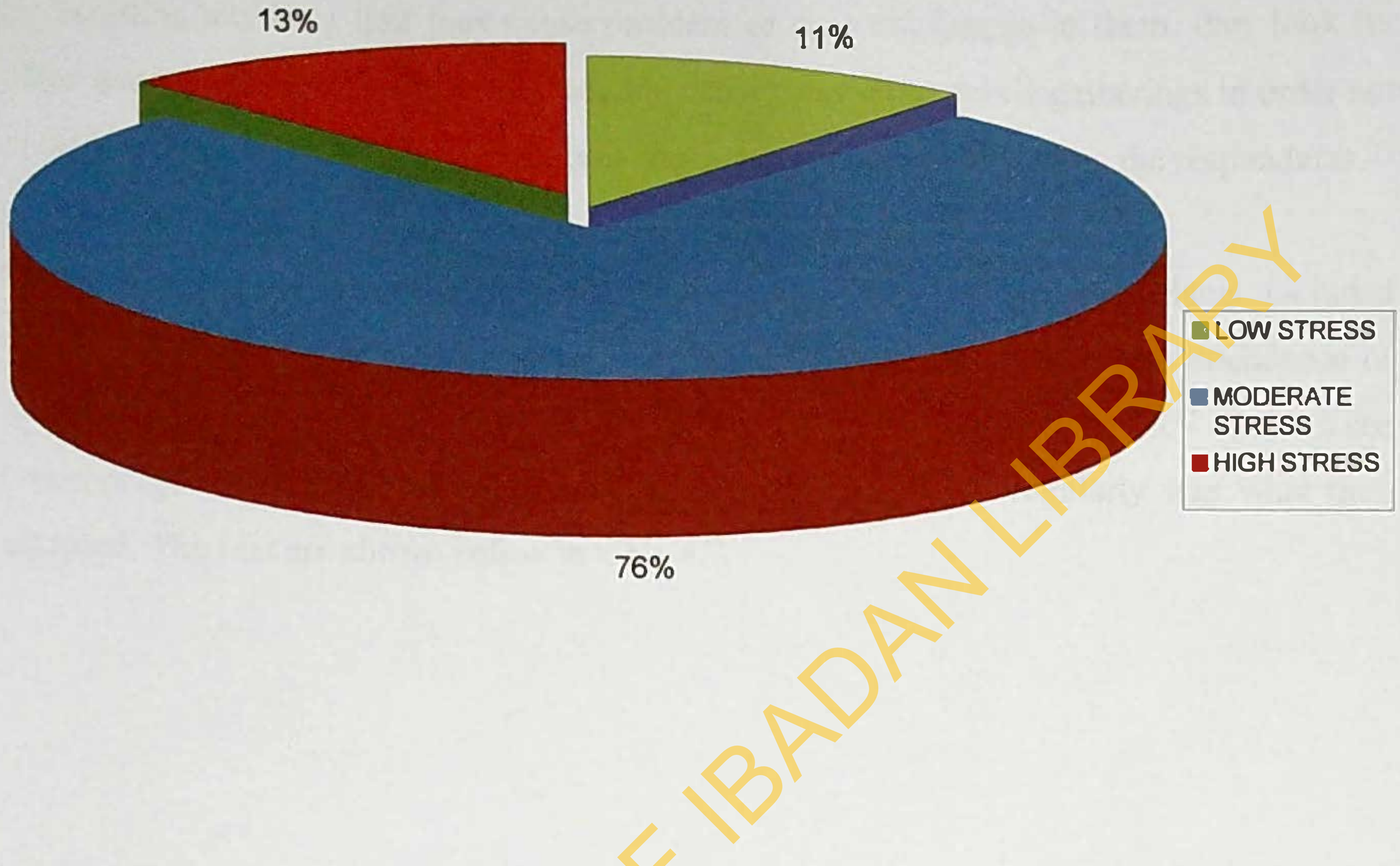


Figure 4.1: Distribution of level of stress

4.7 Reported coping strategies adopted by respondents

Using the adapted Ways of Coping Checklists (WCC) by Vitaliano (1985), a combination of coping strategies were used by respondents. These included accepting status (88.4%), confronting problems arising as a result of being HIV positive (88.4%) and (79%) coped by avoiding anything that may cause problem or pose challenges to them, they look for other ways out of the situation e.g. they may stay away from public gatherings in order not to hear side talks. Table 4.6 shows other strategies of coping adopted by the respondents.

Other ways of coping with stress outside (WCC) adopted by respondents included socializing and staying with children (29.5%), of them engaged in church attendance or any religious activities (29.5%) and 61 (16.1%) reported that attending ARV clinic to see other people with their condition and taking their medication regularly was what they adopted. The rest are shown below in table 4.7.

Table 4.6: Reported coping strategies among respondents using WCC by Vitaliano

*Coping strategies	Frequency	%
Acceptance	350	88.4
Confrontation	350	88.4
Avoidance	313	79.0
Cry	238	60.1
Anger	142	35.9
Wishful thinking	190	48.0
Blaming	57	14.4

* **Multiple responses**

Table 4.7: Other ways of coping with stress outside (wcc) reported among respondents

*Other ways of managing stress outside wcc	Frequency	%
Staying with children, mixing with people and attending support group	112	29.5
Singing, going to church or anything God related	112	29.5
Refusal to think bad thought or listen to bad news and going for possible solution	21	5.5
Going to ARV clinic and meeting other people in their shoes/eating and taking their ARV drug regularly	61	16.1
Get busy with job reading, sleeping and watching movies	20	5.3
Sharing experience with others	03	0.8

* **Multiple responses**

4.8: Respondents' sources of social support

Table 4.8 shows the sources of social support resources available to the respondents. Major source of social support is family 174 (44.6%), followed by partner 125(32.1%), while In-laws 2 (0.5%) is the least source of support for the respondents and the rest are shown in table 4.8 below.

Table 4.8: Reported sources of social support among respondents

Sources of social support	Frequency (N=396)	%
Family	176	44.5
Partner	125	31.6
God/myself/nobody	52	13.1
Friends	12	3.0
Health workers/counselors	10	2.5
Pastor	10	2.5
Support group,, church members	9	2.3
In laws	2	0.5

Table 4.8: Reported sources of social support among respondents

Sources of social support	Frequency (N=396)	%
Family	176	44.5
Partner	125	31.6
God/myself/nobody	52	13.1
Friends	12	3.0
Health workers/counselors	10	2.5
Pastor	10	2.5
Support group,, church members	9	2.3
In laws	2	0.5

TEST OF HYPOTHESIS

4.9 Test of hypothesis of relationship between stress and other variables

Table 4.9 shows the ANOVA table of the relationship between stress and other variables: Age, Marital status, Educational status, Partner's HIV staus, Spousal disclosure, Partner's support and Duration of HIV diagnosis. The mean stress scores according to the variables are shown in table 4.9 below.There is no significant relationship between stress and age ($p>0.05$). There is no significant relationship between stress and Marital status ($p>0.05$). There is no significant relationship between stress and Educational status ($p>0.05$).

There is no significant relationship between stress and Partner's HIV status ($p>0.05$). There is no significant relationship between stress and Spousal disclosure ($p>0.05$). There is no significant relationship between HIV stress and Partner's support ($p>0.05$). There is no significant relationship between stress and Duration of HIV diagnosis ($p>0.05$).The null hypotheses that there is no significant relationship between the HIV stress and Age, Marital status, Educational status, Partner's HIV staus, Spousal disclosure, Partner's support and Duration of HIV diagnosis of the respondents are accepted

Table 4.9: The ANOVA table showing significance difference of HIV stress scores by Age, Marital status, Educational status, Partner's HIV staus, Spousal disclosure, Partner's support and Duration of HIV diagnosis of the respondents

Age	Total (n)	Total Mean(SD)	F statistics	p-value
Age	391	2.7 (4.3)	0.88	0.49
Marital staus	396	22.7 (14.3)	2.21	0.07
Educational status	396	2.7 (14.4)	2.01	0.16
Partner's HIV status	376	2.6 (14.2)	0.37	0.18
Spousal disclosure	395	22.7 (14.4)	0.00	0.97
Partner's support	327	2.4 (4.3)	1.92	0.13
Duration of HIV diagnosis	390	2.8 (4.4)	1.36	0.24

CHAPTER FIVE

DISCUSSION

Findings from this study are discussed in this chapter. The chapter consists of the following sections: Socio-demographic characteristics, HIV related stress/signs among respondents, Disclosure of HIV status and respondents' sources of social support, Respondent's level of stress, Respondents' ways of coping with HIV stress, Health education implications of the major findings and conclusion arrived at.

5.1 Socio-demographic characteristics

Kathleen (2001) stated that variables other than HIV status must be considered when working with women; these include race/ethnicity, marital/family status, place of residence financial status and drug use history. In this vein, this study reveals the socio-demographic characteristics of its respondents. The study shows that majority of the respondents were in their reproductive age. They were with varying marital status of married, separated, divorced or single. Similarly, Nozipho (2000) commented that incidence rate of HIV among women of child bearing age in South Africa is alarming.

Respondents were predominantly Yorubas this could be explained by the location of the study site in Yoruba speaking state. Polygamy is a culturally practiced family setting among the Yorubas but larger percentage of the respondents were in monogamy marital union however, majority were Christians this is not unconnected to the reason for the monogamy. It may also be connected to the finding by Power (2003) that HIV positive women who has experienced negative experience as a result of spousal disclosure use church religion involvement to boost good morale in themselves.

Most of the respondents of this study were artisans and unemployed and by inference belong to the low socio-economic level; this finding was supported by Deborah (2006)

who reported that many HIV positive individuals live in impoverished environments and are of the low socio-economic class. Another study found that low socio-economic status could be a predisposing factor to HIV incidence increase.)

The findings that majority of the respondents had secondary school and primary school education while some had no formal education is also related to the explanation of Subedi (2002) who linked educational status to HIV vulnerability. He stated that lack of education and social empowerment drives women to the vulnerability of HIV infection and this socio economic background is likely associated to their risk of being HIV positive; however as a result of this standard of living; it could lead to poor care.

5.2 HIV related stress/signs among respondents

The findings of this study shows that HIV positive women understand what stress means and they could identify the signs of stress they experienced. They experience both mental and physical signs of stress as result of their HIV status. All the discussants emphatically stated that collecting HIV positive result is very stressful and it was not good news/ its impacts linger throughout ones life time. Not all of the respondents had pretest counseling, majority had post test counseling, and very few had no counseling at all. This inadequate information in counseling could be associated with the signs of stress reported. Both the

Focus Group discussants and the respondents reported illness which included headache, decreased sex drive, worry and inability to concentrate, muscle tension and pain, and loss of appetite. Kiecoly et al (1998) and Edwards et al (1988) revealed that when the symptoms of stress stays long in the body, it leads to depression and many at times depression goes undiagnosed and untreated in people living with HIV because many of the classic symptoms of depression such as fatigue, sleep disturbances, decreased libido, impaired concentration are also common to symptomatic HIV disease. Also the depression goes undiagnosed in HIV positive people because the global demoralization which gives a profound sense of hopelessness and loss of direction, purpose, and self esteem are all symptoms of depression.

The HIV related stress on the HIV stress scale cuts across all level explained by ecological model of McLcroy (1988).Intrapersonal, interpersonal and community/policy level. The emotional stressors category which are on the intrapersonal level on the ecological model shows that difficulty in coming to terms with HIV status was the most prevalent among the respondents, followed by concerns about death related to HIV/AIDS, feeling sad because of HIV Status, dealing with treating HIV related symptoms or illness, paying too much attention to body change and grief/bereavement related to HIV/AIDS. This intrapersonal level of stress can be explained by the perception of HIV infection by the respondents and their personality which may exaggerate the effect of HIV issues thereby inducing stress response. Some behaviour and perception can prevent a stressful situation from arising while there are some for effectively coping with stress (Uzoukwu, 1991).

On the social stressors category (interpersonal level of ecological model), difficulties in telling others about HIV/AIDS status was reported by the larger proportion of the respondents, this is followed by sexual difficulties related to HIV/AIDS, keeping to oneself, future planning difficulties related to HIV/AIDS, being very careful in order to reduce the risk of other infections, discrimination/stigma concerns related to HIV/AIDS and difficulty in getting job because of HIV/AIDS. HIV positive person who experience the greatest stress in their daily lives are those with lower income, those who disengage behaviourally, emotionally in coping with their illnesses and those who approach their interpersonal relationship in a less secure or more anxious style (Koopman 2000). The influence of the significant others and the community is the underlying cause of stress at this interpersonal level. How HIV is perceived among them can induce stress in HIV infected person.

On the instrumental stress category (policy level of ecological model), larger proportion of the respondents reported financial difficulties as stressful, This finding is not far from the fact stated that common causes of chronic stress include poverty and financial worries, long term unemployment, dysfunctional family relationships and caring for a chronically ill family member. (Segal 2009). Other stressors reported under the instrumental category include transport difficulties; difficulties with accessing HIV treatment, boredom related

to HIV and difficulty with health care system (as a result of taking care of self or HIV positive child). Organizational policy, such as health system policy and the national policy on the affordability and accessibility to care and support for HIV infected person can ameliorate or induce stress.

Similar to all the findings above, is the findings of Tunala (2002) who also discovered sources of stress among his HIV positive women respondents; the stressors were categorized as follows: family relations; children; illness; events are directly related to the treatment and illness itself; partner relationship; non-family relationship; financial; professional; and discrimination issue; Stressful events are mainly related to affective/relationship sources, most often associated to the HIV stigma and mostly to women-related subjects.

5.3 Disclosure of HIV status and Sources of social support among respondents

Without disclosure getting adequate support may be difficult. Other most stressful aspect of living with HIV reported among the respondents included disclosure of one's HIV status and accepting the status. All the respondents found disclosure very difficult, majority disclosed to spouse, the Focus group discussant narrated several unpleasant experiences that followed their disclosure while those that did not disclose stated reasons which included fear of rejection, fear of violence and fear of blame for baby's sickness.All these were the experiences of some that disclosed.On a similar note, Gielen et al (2000) reported that HIV positive women who disclosed their status to people experienced negative consequences such as loss of friends, insults rejection by family; having no one they could count on for money or place to stay. Keogh P, Allen, Almedal, Temahagilis. (1999) also reported that the preferred sources of support among HIV women in his study were individual counseling and women support groups; almost seventy five percent of the women did not expect a supportive reaction from their partners after disclosure of the HIV test result.

Social network model by Cohen (1994) explained that social networks are specific sets of linkages among a set of people with the additional property that the characteristics of these

linkage as a whole would be used to interpret the social behaviour of the persons involved. Social support and social network are viewed as resources for women who struggle to survive with the diagnosis of HIV seropositivity (Andrew 1995). The findings of this study showed that the major sources of support reported among the respondents were family, partner and God. Support received from these sources had helped them to continually cope with stress and adjust back to their normal life.Support can be very helpful if one is able to get, the Focus group discussant disclosed that if a woman gets the support of her partner in this HIV issue, all other burdens and concerns will appear as disappeared. L ara (2007) equally found that perceived satisfaction with support from partners was associated with taking antiretroviral therapy as prescribed among HIV positive women.

On the contrary, satisfaction with support from friends and family was not significantly related to adherence in a study carried out by (Power 2003) this is reflecting the fact stated by Keogh (2002) that social support, depending on the type may not always be helpful for adults living with HIV/AIDS. In another study, individuals reporting more satisfying social support were more likely to report lower increase in their HIV related health symptoms, suggesting that social support is a robust predictor of health outcomes over time, independent of coping style and baseline medical status. These findings provide further evidence that social support can buffer deleterious health outcomes among HIV positive individuals with chronic illness (Ashton Vosvick, Chesney, GoreFelton, Koopman, O'chea, Maldonado, Bachmam, Isrealski, Flamm and. Spiegel. 2005.) and if HIV positive women get social support, they can live longer continuing their work of earning (Subedi 2002).

5.4 level of stress among respondents

Findings shows that majority of the respondents were found within moderate stress level and the age group of respondents had no relationship with the stress scores.

Findings also show that marital status, education level, duration of awareness of HIV status, partner support and partner status did not relate or predict stress. Similar to these

present findings were the findings of Pakenham (2002) which showed that all biographical variables such as age, time of diagnosis, education, employment, income, partner status and mode of infection were not associated with stress.

The explanation is that regardless of the socio demographic characteristics: age, education, and employment, and religion, HIV positive women experience stress in diverse ways. This was contrary to the findings of Kenny (2000) who reported that HIV positive young women of (18-29) years reported high stressors, less healthy personality trait and a significantly more physical and emotional symptoms while young and middle age women were more stressed.

5.5 Respondents' ways of coping with stress

Findings of the study show that confrontation, acceptance, anger, avoidance, blame, crying and wishful thinking were the coping strategies used by the respondents.Confrontation and acceptance were mostly adopted of all the ways of coping. Prado (2004) reported that avoidant coping has relationship with distress, Chan (2006) also reported that avoidance coping was associated with higher level of anxiety. Holman (2005) also reported that baseline avoidance coping was prospectively associated with both more chronic and more acute life stressors in respondents four years later in his retrospective study.

Other ways of managing stress adopted by the respondents in the present study include staying with children, mixing with people and attending support group. They equally manage their stress by singing, going to church or anything God related. These buttress the detailed explanation by Mellissa (2007) that women cope with stress differently than men. According to her, researchers even coined a name for it - "tend and befriend" - and it's a very real phenomenon. Females respond to stress by protecting themselves and their young through nurturing behaviors - the "tend" part. They also form alliances with a larger social group, particularly women - the "befriend" part. Women in today's world don't just take care of children, but they also nurture their mates, their parents and their friends in times of stress. When women are stressed, they turn to their friends and family for

emotional support. Women create alliances with large social groups, providing the framework for their support systems during bad times.

5.6 Implication for Health Promotion and Education

This study has some implication for health promotion and education. Health education involves helping people to change or adapt new behaviour through changing knowledge, attitude and perceptions, as well as having access to resources of social support (Green and Kreuters, 1991) Some behaviour and perception can prevent a stressful situation from arising while there are some for effectively coping with stress (Uzoukwu, 1991). It has widely been suggested that Highly Active Anti Retroviral Therapy (HAART) has improved the psychosocial aspects of living with HIV/AIDS, but contrary to expectation, HIV infected women in the HAART era are significantly more likely than women in the pre HAART era to report health related stress from stigma and disclosure. They believe that their health is due to chance and they are likely to report more use of maladaptive form of coping (for example escape-avoidant coping) (Siegel2005).

Findings from this study showed that respondents of this study were not knowledgeable about reducing the use of avoidant coping. There is need for health education on the positive coping with stress. More of their stressors identified were at the intra personal level for example difficulties in coming to terms with HIV status and at the interpersonal level; difficulty of telling others of ones HIV status. However, financial difficulty was largely reported at the instrumental level. Health education and advocacy should address both intrapersonal level, interpersonal and policy levels of interactions of HIV positive women. Community enlightenment about effect of stigmatization on nondisclosure and invariably the spread of HIV is very necessary.

Findings of this present study show that a large majority experience moderate stress and all the respondents adopted diverse ways of coping. However, there is need for education on maladaptive form of coping and adaptive form of coping. Therefore, health education is needed for recognition of stress, preventing it and adopting positive coping strategies for the unpreventable HIV stressors

5.7 Conclusion

This study shows that HIV positive women were affected by different stressors which are mainly psycho-social and economic in nature. It also shows that HIV positive women experience stress regardless of their ages, marital status, and level of education, partner's status or partner's support. The intensity of the stress is actually moderate; this could be as a result of social supports resources available to them.

The prevalent stress factors identified which include difficulty in coming to term with HIV status, (this could lead to denial and invariably affect treatment adherence). Difficulties in disclosing HIV status (this could reduce the social support they could have got) and financial difficulty (This could affect accessing care and feeding for survival) .

Furthermore, HAART may have extended survival for many HIV infected individuals; it has not resulted in equivalent psychosocial improvements. Thus efforts are needed to address the psychosocial difficulties that HIV infected women in the HAART era continue to experience (Koopman 2002) Sikken (2003) also suggested that interventions are needed to enhance coping and reduce psychological distress associated with the unique experiences of people living with HIV.

5.8 Recommendations

In order to identify the appropriate causes of problems as well as appropriate solution and changes, there is need to see beyond a more traditional focus on individual behaviour change and blaming a victim for a health problem. Analysis that can result in strategies that change social groups, organization, communities and policy not just an individual is needed (McLeroy, 1988). There is need for institutional development of skill acquisition for HIV positive women, increased social support and financial support for them. Adequate counseling and information is very important to alleviate the effect of shocking news of HIV seropositivity and aid positive living.

Health care professionals should provide integral care to HIV-infected women. Therefore, health workers should be trained to identify women with high stressors and unhealthy

personality traits that can increase their risk for stress related illness and assist these women to modify their stressors or personality traits and coping skills to enhance their health status.

There is need to give support as assisted disclosure of HIV status this in turn will reduce unpleasant experiences following disclosure.There is also need to give HIV positive living information among the HIV positive women and their caretakers. This will impart confidence and reassurance in them. Positive living will help future planning, such as furthering education, establishment of income generating business, childbearing, assisted disclosure, prevention of HIV transmission and so on, counseling should be made available on life planning.

Advocacy for partner support is very important, if supportive partners (especially discordants) of HIV positive women can work as volunteers with counselors assisting in disclosing HIV status of women to partners, it will be very helpful.

There is need for health and social service programs/policy change in strategies to increase HIV positive women's coping skills in order to reduce the specific social contextual stressors they experience.

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APPENDIX I

INFORMED CONSENT FORM

I am Adefolarin Adeyinka, a student of the Department of Health Promotion and Education, Faculty of Public Health, University Ibadan, the purpose of this study is to identify experiences that cause stress for HIV positive women, how they cope or how they do not cope with them and sources of social support available to them.

The findings from this study will help in recommending programs and supports that are aimed at reducing stress that women experience and to improve their coping ability. I wish to inform you that there is no wrong or right answer to the questions I will ask you. Please be informed that participation is voluntary, you are free to withdraw from the study at any time. This will in no way affect your participation, your name will not be written anywhere and no information about spouse or after person will be discussed. Please, I implore y ou to cooperate, try and give responses to the questions I will ask y ou as honestly as possible. You are free to ask questions as the interview progresses.

The findings from this study will help researcher to have understanding of the stressful experiences HIV women have. This will help in recommending programs and supports that are aimed at reducing stress that women experience and to improve their coping abilities.

The questionnaires will carry no identity except the serial no which is important for data entry. The questionnaires will be destroyed after the study

Thank you.

Researcher's signature ..... Date _____

Participant's signature ..... Date _____

APPENDIX II

FOCUS GROUP DISCUSSION GUIDE

1) **General Information(introduction of participants with age)**

Let us discuss the concerns of women generally, what challenges do we women have in present day Nigeria

(1) **What is the meaning of stress?**

Probe into

i) Have you ever experienced stress?

ii) What were the symptoms you had that showed that you were stressed?

iii) How did you cope or how did you manage it?

(2) ***Information about awareness of HIV status***

i) **When did you know about your HIV status?**

Probe into

ii) How did you know about it?

iii) What were your experiences when you wanted to do the test collect result and disclose the result to any other person?

iv) What were the specific fears and concerns you had generally?

v) What were the specific fears and concerns as regards the disclosure of your HIV status?

vi) What were the symptoms of stress you experience?

iv) What are the HIV test results of your partners?

(3) **Information about stress response experience and living with HIV** ***(How did you experience stress concerning living with HIV?)***

Probe into

a. What did you find stressful as a single/married/pregnant woman living with HIV, having same or different HIV result from your partner?

b. Does your HIV status change the number of children you would have given birth to?

c. How do you feel when you are being called PLWHAs?

d. Will you want to marry(This question is for single and widow)

i) How do you view your social support?

ii) What difficulty did you face accessing treatment?

iii) Does taking ARV stop all the stressful experiences?

iv) How have you been coping?

d. Will you want to marry(This question is for single and widow)

i) How do you view your social support?

ii) What difficulty did you face accessing treatment?

iii) Does taking ARV stop all the stressful experiences?

iv) How have you been coping?

APPENDIX III

SEMISTRUCTURED QEUSTIONAIRE

STRESSORS, COPING MECHANISM AND SOCIAL SUPPORT AMONG HIV POSITIVE FEMALES ATTENDING ANTIRETROVIRAL TREATMENT CLINIC IN A TERTIARY INSTITUTION IN IBADAN.

I am Adefolarin Adeyinka, a student of the Department of Health Promotion and Education, Faculty of Public Health, University Ibadan, the purpose of this study is to identify experiences that cause stress for HIV positive women and how they cope or how they do not cope with them.

The findings from this study will help in recommending programs and supports that are aimed at reducing stress that women experience and to improve their coping ability.

I wish to inform you that there is no wrong or right answer to the questions I will ask you.

Please be informed that participation is voluntary. Your name will not be written anywhere and no information about spouse or after person will be discussed.

Please, I implore you to cooperate, try and give responses to the questions I will ask you as honestly as possible. You are free to ask questions as the interview progresses.

BENEFIT OF THE STUDY

The findings from this study will help researcher to have understanding of the stressful experiences HIV women have. This will help in recommending programs and supports that are aimed at reducing stress that women experience and to improve their coping abilities.

RISK OF THE STUDY

The questionnaires will carry no identity except the serial no which is important for data entry. The questionnaires will be destroyed after the study

Thank you.

For office use only

Serial no

SECTION A

DEMOGRAPHIC DATA

1. AGE IN YEARS _____

2. HIGHEST LEVEL OF EDUCATION

(1) No formal Education ( ) (2) Primary Education ( )

(3) Secondary Education ( ) (4) NCE( ) (5) Diploma( ) (6) Higher diploma( )

(7) Degree ( )

(8) Others, specify _____

3. RELIGION (1) Christian ( ) (2)Islam( ) (3) Traditional ( )

(4) Others specify_____

4. OCCUPATION (1) unemployed ( ) (2) unskilled ( ) (3) skilled ( )

5. TRIBE (1) Yoruba ( ) (2) Ibo ( ) (3) Hausa ( ) (4) Others ( )

6. MARITAL STATUS (1) Married ( ) (2) Widowed ( ) (3)Separated ( )

(4) Divorce ( )(5) Single ( )

7. IF SEPARATED, did you separate because of HIV? (1) Yes ( ) (2) No ( )

8. IF YES TO QUESTION (7), how long? _____

9. IF WIDOWED, were you widowed from HIV? (1) Yes ( ) (2) No ( )

(3) unknown ( )

10. IF WIDOWED FROM HIV, how long have you been widowed? _____

11. IF MARRIED, type of marriage (1) Monogamy ( ) (2) Polygamy ( )

12. HOW LONG HAVE YOU BEEN MARRIED? _____

14. PARTNER'S OCCUPATION (1) unemployed ( ) (2) unskilled ( )

(3) skilled ( )

15. NO OF CHILDREN (1) none( ) (2) pregnant ( ) (3) one ( )

(4) more than one ( )

SECTION B

AWARENESS OF HIV STATUS

16 Date of HIV confirmation (in year) _____

17. Reasons for screening (1) Sickness ( ) (2) Pregnancy ( )

(3) Sickness of child ( ) (4) Sickness of husband ( )

(5) Voluntary testing ( ) (6) Death of husband ( )

(7) other, specify.....

18. Were you offered pretest counseling? (1) Yes ( ) (2) No ( )

19. Were you offered post test counseling? (1) Yes ( ) (2) No ( )

20. Do you have a counselor to yourself, who provides you with follow up counseling?

(1) Yes ( ) (2) No ( )

21. Have you disclosed your HIV status to anybody? (1) Yes ( ) (2) No ( )

22 Who did you first disclose your HIV status to? (1) Mother ( ) (2) father ( )

(3)Partner ( ) (4) friend ( ) (5) other specify _____

23. From whom have you ever experienced stigmatization? (1) Family ( ) (2) health worker ( ) (3) friends ( )(4) co worker ( ) (5) neighbour ( ) (6) church member ( ) (7) other, specify ( )

24. Who are those that have been your source of support?

_____

25. Was/is your partner/husband aware of your HIV status?(1)Yes( ) (2)No

26. If NO, why_____

27. What is/was the HIV status of your partner? (1) Positive ( ) (2) Indeterminate ( )

(3) Negative ( ) (4) unknown ( )

28. How did you disclose to your partner? (1) By myself ( ) (2) assisted by health worker/counselor (3) assisted by family member ( ) (4) assisted by pastor ( ) others specified_____

29. How supportive is/was your husband? ( ) (1) Very supportive ( )

(2) Supportive ( ) (3) Not supportive ( ) (4) Indifferent ( )

(5)others, specify_____

30. Which of these did/have you experience/d from your partner because of your HIV status? (1) Neglect ( ) (2) separation ( ) (3) beating ( ) (4) verbal abuse ( ) (5) blame ( ) (6) disclosure to others ( ) (7) apology (8) other, specify_____

31. How often do/did you use condom with your partner? (1) Always (2) sometimes (3) once in a while ( ) don't use at all ( )

32. What is/was your partner's reaction to condom use? (1) Enjoy it (2) complain (3) angry (4)fed up (5) not use at all ( )(6) endure ( )

33. What is/was your own reaction to condom use? (1) Enjoy it (2) complain (3) angry (4)fed up (5) not use at all ( ) (6) endure ( )

34. Are you thinking of reducing the number of children you ever desired to have before this HIV status? (1) yes () (2) (No).

(3) If yes ,why?_____

35. Do you have any HIV positive child? (1)Yes () (2) No () (36) If yes, how many_____

36. Do you have any HIV positive child that died? (1) Yes ( ) (2) No ( )

37. How long have you been taking ARV treatment? _____

38. What are the major challenges about HIV that is stressing you now as a single lady, married, pregnant or widow woman?

_____

_____

_____

SECTIONC

EXPERIENCES AND FREQUENCIES OF SIGNS OF STRESS

The questions in this scale ask you about your feelings and thought during the last month, in each case you will be asked to indicate by circling how often you felt or thought a certain way

Key: O = never, 1 = Almost never, 2 = Sometimes, 3 = fairly often, 4 = very often.

(Have you ever experienced stress affecting your mind and how often (MENTAL STRESS)

	EXPERIENCES OF SIGNS OF STRESS	FREQUENCIES				
		0	1	2	3	4
39.	**Memory loss**					
40.	**Feeling of out of control**(Difficulty in making decision,confusion, Lack of confidence)					
41.	**Worry and feeling anxious** (Inability to concentrate)					
42.	**loss of objectivity** (Seeing only negative ,Urge to cry at inappropriate times,neglecting impotant things like work school and appearance)					
43.	**Mood change**(Repetitive thoughts,Moody/depressed,Angry,Feeling of separation from others)					
44.	**Thoughts of suicide**					
45.	**Developing irrational fear or repetitive thought** e.g fear of illness or death)					

(Have you ever experienced stress affecting your body and how often)(PHYSICAL STRESS)

	EXPERIENCES OF SIGNS OF STRESS	FREQUENCIES				
		0	1	2	3	4
46.	Headaches					

49.	Change in appetite					
50.	Muscle tension and pain					
51.	Sleep disturbances					
52.	Fatigue					
53.	Chest pain					
54.	Irregular heartbeat					
55.	Raised blood pressure					
56.	Weight gain or loss					
57.	Asthma or shortness of breath					
58.	Decrease sex drive					

SECTION D

STRESS FACTORS AND RATING (adapted from HIV stress scale by Pakenham and Rinaldis (2002))

Key:

Very stressful	The situation bother you a lot, it annoys you greatly. You think about it most of the time.
Moderately stressful	The situation worries you sometimes. It makes you give a serious thought of how to cope with it.
A little bit stressful	The situation borders you a little and with time you shall get over it
Not stressful	You have become used to the situation or it does not bother you any more
Not applicable	The situation does not occur nor apply to you

STRESS FACTORS	RATING				
	Very stressful	Moderate stressful	A little bit stressful	Not stressful	Not applicable
EMOTIONAL/EXISTENTIAL STRESS					
59) Concerns about death related to HIV/AIDS					
60) Difficulties in coming to ~~terms~~ with your HIV status.					
61)Grief /bereavement related to HIV/AIDS.)					
62) feeling sad because of HIV Status.					
)ifficulty with treating HIVrelated symptoms or illness.					
64) Paying too much attention to bodily functions or change.					
65)Religious difficulties /stigmatization from religious settings related to HIV/AIDS					
SOCIAL STRESS					
66)Difficulties in telling other of your HIV/AIDS status					
67)Keeping to oneself because of HIV status.					
68)Discrimination/stigma concems related to HIV/AIDS.					

69)Difficulties to get job because of HIV status.					
70)Sexual difficulties related to HIV/AIDS.					
71)Fututure planning difficulties related to HIV/AIDS.					
72) Being very careful in order to Reduce the risks of infection.					
73)Suicidal thought/attempts related to HIV/AIDS.					
74) Having problems with spouse or family member or neighbour because of HIV/AIDs					
INSTRUMENTAL STRESS					
75) Financial difficulties related to HIV/AIDS.					
76) Difficulties with accessing HIV treatment.					
EMOTIONAL/EXISTENTIAL STRESS					
81)Concerns about death related to HIV/AIDS.					
82) Difficulties in coming to terms with your HIV status.					
83)Grief /bereavement related to HIV/AIDS.					
84) Feeling sad because of HIV Status					

85)Difficulty with treating HIVrelated symptoms or illness.					
86) Paying too much attention to bodily functions or change.					
87)Religious difficulties /stigmatization from religious settings related to HIV/AIDS					
SOCIAL STRESS					
88) Difficulties in telling other of your HIV/AIDS status					
89) Keeping to oneself because of HIV Status.					
90) Discrimination/stigma concerns related to HIV/AIDS.					
91)Difficulties in getting job because of HIV Status.					
92) Sexual difficulties related to HIV/AIDS.					
93)Fututure planning difficulties related to HIV/AIDS.					
94) Being very careful in order to Reduce the risks of infection.					
95)Suicidal thought/attempts related to HIV/AIDS.					
96) Having problems with spouse or family member or					

neighbour because of HIV/AID					
INSTRUMENTAL STRESS					
97) Financial difficulties related to HIV/AIDS.					
98) Difficulties with accessing HIV treatment.					
99) Transport difficulties related to HIV/AIDS					
100) Increased drug/alchohol intake because of HIV/AIDS thoughts					
101)Boredome related to HIV/AIDS					
102)Difficulty with health care set up/procedures					

SECTION E

COPING STRATEGIES Adapted from Way of Coping Checklist revised byVitaliano and Folkman S. F (1985)

KEY:

Acceptance — Accept the situation as if is, that there is nothing you can do about it.

Confront — You try to solve the problem directly

Anger — You become easily annoyed over the situation. You abuse others or even break or damage things

Avoid — You look for other ways out of the situation e.g. you stay away from public gatherings in order not to hear side talks.

Blame — You keep explaining the cause of your situation.

Cry — You are emotionally down and you shed tears often

Wishful thinking — You fill your mind with desirable thoughts

STRESS FACTORS	COPING STRATEGIES						
	Acceptance	Confront	Anger	Avoid	Blame	Cry	Wishful thinking
EMOTIONAL/EXISTENTIAL STRESS							
59) Concerns about death related to HIV/AIDS							
60) Difficulties in coming to terms with your HIV status.							
61)Grief /bereavement related to HIV/AIDS.)							
62) feeling sad because of HIV Status.							
Difficulty with treating HIVrelated symptoms or illness.							
64) Paying too much attention to bodily functions or change.							
65)Religious difficulties /stigmatization from religious settings related to HIV/AIDS							
SOCIAL STRESS							
66)Difficulties in telling other of your HIV/AIDS status							

67)Keeping to oneself because of HIV status.							
68)Discrimination/stigma concerns related to HIV/AIDS.							
69)Difficulties to get job because of HIV status.							
70)Sexual difficulties related to HIV/AIDS.							
71)Fututure planning difficulties related to HIV/AIDS.							
72) Being very careful in order to Reduce the risks of infection.							
73)Suicidal thought/attempts related to HIV/AIDS.							
74) Having problems with spouse or family member or neighbour because of HIV/AIDs							
INSTRUMENTAL STRESS							
75) Financial difficulties related to HIV/AIDS.							
76) Difficulties with accessing HIV treatment.							
EMOTIONAL/EXISTENTIAL STRESS							
81)Concerns about death							

related to HIV/AIDS.							
82) Difficulties in coming to terms with your HIV status.							
83)Grief /bereavement related to HIV/AIDS.							
84) Feeling sad because of HIV Status							
)ifficulty with treating HIVrelated symptoms', or illness.							
86) Paying too much attention to bodily functions or change.							
87)Religious difficulties /stigmatization from religious settings related to HIV/AIDS							
SOCIAL STRESS							
88)Difficulties in telling other of your HIV/AIDS status							
89)Keeping to oneself because of HIV Status.							
90)Discrimination/stigma concerns related to HIV/AIDS.							
91)Difficulties in getting job because of HIV Status.							
92)Sexual difficulties related to HIV/AIDS.							

93)Fututure planning difficulties related to HIV/AIDS.							
94) Being very careful in order to Reduce the risks of infection.							
95)Suicidal thought/attempts related to HIV/AIDS.							
96) Having problems with spouse or family member or neighbour because of HIV/AID							
INSTRUMENTAL STRESS							
97) Financial difficulties related to HIV/AIDS.							
98) Difficulties with accessing HIV treatment.							
99) Transport difficulties related to HIV/AIDS							
100) Increased drug/alchohol intake because of HIV/AIDS thoughts							
101)Boredome related to HIV/AIDS							
102)Difficulty with health care set up/procedures							

SECTION F

OTHER COPING METHOD	ADOPTED	INTENDED	NEITHER
103)Praying to God for long life			
104)Praying to God for healing			
105)Not disclosing HIV status to anybody			
106)Writing suggestion or concept to the health care authority			
107)Seeking support from church, family, etc			
108)Looking for better job			
109)Furthering education to keeps busy			
110)Asking health care workers questions of concerns			
111)Attending support group meeting			

112) Mention other ways you use in managing your HIV related stress_____

_____

_____

_____

CONCLUSION/APPRECIATION

We have come to the end of our discussion. I thank you for your attention. Are there any questions you want to ask me or concerns you want to share with me)

Question/Concern

_____

APPENDIX 1V

YORUBA VERSION OF INFORMED CONSENT
IWE MO GBA LATI KOPA

AWON OHUN TI O N FA IFOORO, AWON ONA ABAYO ATI AWON IBI TI ATILEYIN TI N WA LARIN AWON OBINRIN TI O NI KOKORO HIV TI O N GBA ITOJU NI ILE IWOSAN ARV KAN NI ILU IBADAN

Oruko mi ni Adefolarin Adeyinka, akeko ni eka ti o n danileko lori eto ilera ti o si n gbe eto ilera laruge ni Ile eko giga Fasity Ibadan, koko iwadi ti mo n se da lori mimo awon iriri ti o n fa ifooro fun awon obinrin ti o ni kokoro HIV ati wipe bawo ni won se n dojuko tabi bawo ni won ko se le dojuko.Iwadi yi yoo ranmi lowo lati wa awon eto ati aduroti ti o je ona abayo lati din ifooro ti awon obinrin ti o ni kokoro HIV n dojuko ati lati ro won lagbara lati dojuko won.

Mo fe lati je ki e mo wipe ko si esi ti o tona tabi ti ko tona si awon ibeere yi.Ki e si mo wipe kikopa ninu didahun ibeere yi ki i se tipatipa,e lee pinu lati ko lati ko kopa ninu iwadi yi nigbakugba.Eleyi ko di gbigba itoju lowo. N ko ni ko oruko yin tabi nonba yin si ibikankan, be gege ni ko ni si aheso oro nipa oko yin tabi enikeni.E jowo ,mo ro yin lati fi owosowopo pelu mi ,ki e gbiyanju lati fi esi otito si awon ibeere ti mo ba bi yin.E turaka lati bi mi ni ibeere bi ibeere mi ba se n te siwaju.

Awon abajade iwadi yi yoo ran wa lowo lati mo kini awon iriri nipa ifooro to jeyo lati esi ayewo wipe eniyan ni kokor HIV fun awon obirin .Eleyi yoo ranwa lowo lati le daba agbekale eto ati atileyin ti yoo din gbogbo ifooro yi ku ati lati ran awomn obirin lowo lori awon ona abayo.

Awon iwe ibeere yi ko ni ami idanimo kankan ayafi nomba sinsentele ti a o fi se aayan awon esi wa.Leyin awon aayan wonyi a o ba gbogbo awon iwe ibeere na je.

E seun.

Ibuwoluwe Oluwadi ..... Date_____

Ibuwoluwe Olukopa ..... Date _____

APPENDIX V

AWON IBEERE TO JE ATONA FUN IFOROJOMITORO ORO

1) Agbajopo ibeere (siso koko ti iwadi mi da le lori ati mimo bi iru ojo ori wo ni awon ti mo n gba oro lenu won)

Ni bayi e je ki a fi oro jomitoro oro lori kini awon erongba awa obinrin lapapo ati wipe kini awon ipenija ti awa obinrin ni ni ipinle Nigeria ode oni?

(i) Mo n gbo ti ifooro n jeyo ninu awon oro wa lati eekan, n je kini ifooro je gan kini itumo re?

Se iwadi lori

ii) kini awon ami ti eniyan le fi mo wipe ifooro ni o n se ohun?

iii) Bawo ni a se ma n dojukoo ti o ba sele tan?

(2) Ibeere lori bi e ti mo wipe kokoro HIV yi wa ni ara wa

i) Ni igba wo ni e mo wipe kokoro HIV wa ni ara yin?

Se iwadi lori

ii) Bawo gan ni e se ni imo yi?

iii) Bawo ni iriri yin nigbati e fe se ayewo nigbati e fe gba esi ati lati fi esi yi to eniyan leti?

iv) Ki gan ni awon iberu tabi ijaya lapapo ti e ni ni asiko won yi?

v) Ki gan ni awon iberu tabi ijaya ti e ni nipa fifi esi yi to eniyan kankan leti?

vi) Ki ni awon ami ifooro tabi idaamu okan ti e ni ni awon asiko sise ayewo ati gbigba esi?

vii) Kini esi ayewo awon oko tabi afesona yin?

3) Ibeere lori iriri lori ifooro tabi idaamu okan ati gbigbe pelu HIV

(Bawo ni iriri yin nipa gbigbe pelu kokoro HIV)

Se iwadi lori

i) Bawo ni iriri ifooro gege bi omidan,adelebo,olyun ti o n gbe pelu kokoro HIV, ati wipe iriri wa nipa wipe esi ayewo awa ati oko tabi afesona wa ko ri bakannna tabi o ri bakanna?

ii) N je esi ayewo yin yi ti yi ipinu yin pada nipa iye omo ti e fe bi?

iii) Bawo ni pipe wa ni awon ti on gbe pelu kokoro HIV (PLWHAs) se ba okan yin ninu je si?

iv) N je o si wuyin lati ni oko (Ibeere yi wa fun opo ati omidan)

v) Bawo ni e se ni ifooro nipa aisi iranlowo kanakan?

v) Bawo ni e se ni ifooro nipa gbigba oogun ati gbigba itoju?

vi) N je oogun ARV yi mu ifooro okan yi kuro patata?

APPENDIX VI

IWADI

AWON OHUN TI O N FA IFOORO ATI BI AWON OBINRIN TI O NI KOKORO HIV TI EKA PEPFAR CLINIC UCH IBADAN SE N DOJUKO AWON WONYI

Oruko mi ni Adefolarin Adeyinka, a student of the Department of Health Promotion and Education, Faculty of Public Health, University Ibadan, koko iwadi ti mo n se da lori mimo awon iriri ti o n fa ifooro fun awon obinrin ti o ni kokoro HIV ati wipe bawo ni won se n dojuko tabi bawo ni won ko se le dojuko.Iwadi yi yoo ranmi lowo lati wa awon eto ati aduroti ti o je ona abayo lati din ifooro ti awon obinrin ti o ni kokoro HIV n dojuko ati lati ro won lagbara lati dojuko won.

Mo fe lati je ki e mo wipe ko si esi ti o tona tabi ti ko tona si awon ibeere yi.Ki e si mo wipe kikopa ninu didahun ibeere yi ki I se tipatipa.N ko ni ko oruko yin tabi nonba yin si ibikankan, be gege ni ko ni si aheso oro nipa oko yin tabi enikeni.E jowo ,mo ro yin lati fi owosowopo pelu mi ,ki e gbiyanju lati fi esi otito si awon ibeere ti mo ba bi yin.E turaka lati bi mi ni ibeere bi ibeere mi ba se n te siwaju.

ANFAANI IWADI YI

Awon abajade iwadi yi yoo ran wa lowo lati mo kini awon iriri nipa ifooro to jeyo lati esi ayewo wipe eniyan ni kokor HIV fun awon obirin .Eleyi yoo ranwa lowo lati le daba agbekale eto ati atileyin ti yoo din gbogbo ifooro yi ku ati lati ran awomn obirin lowo lori awon ona abayo.

EWU TO WA PELU IWADI YI

Awon iwe ibeere yi ko ni ami idanimo kankan ayafi nomba sinsentele ti a o fi se aayan awon esi wa.Leyin awon aayan wonyi a o ba gbogbo awon iwe ibeere na je.

E seun.

No ni sisentele

ABALA A

ITAN NIPA ARA ENI

1. E to omomodun melo?_____

2. Iwe melo ni e ka? (1) Mi o kawe rara ( ) (2) Mo ka iwe alakobere ( ) (3)Mo ka ile iwe girama ( ) (4)Mo ka iwe giga ( ) (5)Mo ka fasiti ( ).

3. Ki ni esin yin? (1)Igbagbo ( ) (2) Musulumi ( ) (3) Elesin ibile ( )(4) Eso esin miran ti e n se (5) E so iwe miran

4. Iru ise ni e n se? (1) ko nise rara (2) ise owo (3) oja tita (4)ise ijoba

5. Omo ilu wo ni yin (1) Yoruba (2) Ibo (3) Hausa (4) Omiran

6. Ewo ni e je ninu gbogbo eyi ni e je? (1)Adelebo ( ) (2)Opo ( ) (3)Iyapa ti wa ( )(4)A ti ko ara wa sile ( ) (5)olomoge ( )

7. Ti idahun yin si ibeere (6) oke yi ba je "iyapa ti wa" n je eyi sele nitori isele HIV (1) Beeni (2) Beeko

8. Ti o ba je nitori isele hiv ni iyapa fi wa, a ti to odun melo ni o ti isele?

_____

9. Ti o baje wipe opo ni yin, nje nipase hiv ni e fi di opo bi? (1) Beeni (2) Beeko

10. Ti o ba je wipe beeni ni idahun yin si ibeere oke yi, e ti wa bayi to odun melo?

_____

11. Ti o je wipe e wa ninu igbeyawo, iru igbeyawo wo ni e wa ninu re? (1) Oniyawo kan (2) Oniyawo pupo (3) ko ikan sile fe omiran

12. A to odun melo ni e ti wa ninu igbeyawo yi? ____

14. Iru ise wo ni oko yin n se? (1) ko nise rara (2) ise owo (3) oja tita (4)ise ijoba

15. Omo melo ni e ti ni bayi? (1) mo n woju olorun (2)Oloyun ni mi (3)Omo kan (4) Mo ni ju omo eyo kan lo

ABALA B

BI O TI DI M IMO WIPE MO NI KOKORO HIV

16. Ojo wo ni e se ifidimule ayewo yi?.....

17. Kini idi ti e fi se ayewo yi? (1)Aisan ( ) (2) Oyun ( )

(3) Omo se aisan ( ) (4) Oko se aisan ( )

(5) Ayewo atokan wa ( ) (6) Idi miran ( )

18. N je won gba yin ni iyanju ki e to se ayewo yii? (1) Beeni ( ) (2) Beeko ( )

19. N je won se igbani niyanju ti o saaju ayewo sise fun yin? (1) Beeni ( )

(2)Beeko ( )

20. N je e ni olugbani niyanju ti e n to wa fun igbaniniyanju loorekore?

(1)Beeni ( ) (2) Beeko ( )

21. N je e ti fi esi ayewo yin yi to enikeni leti?

(1)Yes Beeni ( ) (2) No Beeko ( )

22 Tani eni ti e koko fi esi ayewo yin to leti (1) Iya mi ( ) (2) Baba mi ( )

(3)Olubalopo ( ) (4) Ore ( ) (5) E so elomiran ti o je_____

23 Tani o deye si yin ninu awon wonyi? (1) Ebi ( ) (2) onise iwosan ( ) (3) ore ( ) (4) alajosisepo ( ) (5) aladugbo ( ) (6) awon ara ijo (7) so elomiran ti o je ( )

24 Tani o je atileyin fun yin? _____

25 N je e ti fi esi ayewo yi to oko yin tabi afesona yin leti? (1) Beeni ( ) (2) beeko

26 Ti esi yin si ibeere oke yi ba je beeko, ki ni idi?_____

27 Ki ni esi ayewo oko yin? (1) HIV wa nibe ( ) (2) ko daju ( ) (3) HIV ko si nibe ( ) (4) emi ko mo ( )

28 Ti esi yin si ibeere 25 ba je beeni, bawo ni e se fi to oko tabi afesona yin leti? (1)Emi tikara mi ( ) (2)awon osise eleto ilera ni o ranmilowo (3) awon ebi ni o ranmi loowo lati so ( ) (4) Oluso aguntan ni o ranmilowo lati so ( ) ona miran ti e fi so_____

29 Bawo ni oko yin se ti yin leyin si? (1) o ti mi leyin gidigidi ( ) (2) o ti mi leyin ( ) (3) ko ti mi leyin rara ( ) (4) ko ko ibi ara si mi ( ) (5)kini nkan miran ti o se_____

30 Ewo ninu nkan wonyi ni oko yin tabi afesona yin se si yin? (1)o pa mi ti ( ) (2)o fi mi sile ( ) (3)o n na mi ( ) (4)o n bu mi ( ) (5)o n da mi lebi ( ) (6)o n so fun awon eniyan kaa kiri( ) (7) o n be mi (8) kini nkan miran ti o se?_____

31 Bawo ni e se nlo roba idabobo si? (1) ni gbbo igbao(2)leekankan (3) ni igba miran ( ) a ko lo rara ( )

32 Iha wo ni oko yin tabi afesona yin ko si? (1) o n gbadun re (2)o n se aroye (3) o n se aroye (4)o ti su ()ko loo rara ( )(6) o n fara da ( )

33 Iha wo ni eyin funra yin ko si? (1) o n gbadun re (2) o n se aroye (3) o n se aroye (4) o ti su f (5) ko loo rara ( ) (6) o n fara da ( )

34 Nje e ti pinu lati din iye omo ti e fi bi ku ?(1)beeni (2)beeko (34)Ti o ba je beeni, kini idi eyi?_____

35 N je e ni omo ti o ni kokoro HIV bi? (1)Yes ( ) (2) No ( ) (36) Ti esi yin si ibeere no ba je beeni, melo ni_____

36 Nje e ni omo ti o ni HIV ti o si ti ku? (1) beeni ( ) (2) beeko ( )

37 A to odun melo ti e ti n lo ogun ARV_____

38 Kini awon ohun miran ti o ba yin lokan je tabi ti on fa idamu, ifooro, ipenija fun yin?

_____

ABALA D

IRIRI NIPA AWON AAMI IFOORO ATI BI WON SE N SELE SI

E seun fun awon esi yin lati eekan, mo fe lati bi yin ni ibeere nipa esi ayewo HIV yin, bi o ti se ri ni ara ati okan. (Jowo fi ami si esi ti oludahun re ba so)

Awon ibeere yi ni osuwon ti e fi le won bi ero yin ati ago ara yin se rri ni bi i osu kan seyin.Ni ipele kankan ki e fi ami si eyi ti o ba je esi yin si awon ibeere yi

Kokoro: O = Ko sele ri, 1 = Ko fee sele ri 2 = O n sele lee kankan, 3 = O n se ni igba miran 4 = O n sele deede

N je e ti ni iriri ti o da okan lamu ri ati bawo ni o se sele deede si ((IFOORO OKAN)

	APEERE IRIRI TI E TI NI	BI O TI SE N SELE SI				
		0 **O n se ni igba miran**	1 **O n se ni igba miran**	2 **O n se ni igba miran**	3 **O n se ni igba miran**	4 **O n sele deede**
39.	**Ki eniyan ma a tete gbagbe nkan**					
40.	**Aini isakoso aye ara eni mo**,isoro lati se ipinu, iporuru okan,,ki nkan ka eniyan layaKo ma si igboya mo					
41.	**Idaru okan**, Ai ma le pa okan po					
42.	**Ki ojo iwaju ma fe ye eniyan mo**, Ki ekun ma gbon eniyan nigbakuugba					
43.	**Ayipada ninu isesi,atunro ero**, Ibanuje , Ibinu ,K I o ma se eniyan bi wipe eniyan kii se ara awon eniyan miran.					
44.	**Ironu pipa ara eni**					
45.	**Ki eru sa ma ba eniyan bii iberu aisan tabi iku**					

Bawo ni e se le salaye bi iforo yi se ri ni ago ara yin ati wipe bawo ni iriri yi se n sele si? (IFOORO TI O N FARA HAN NI AGO ARA)

	APEERE IRIRI TI E TI NI	BI O TI SE N SELE SI				
		0 O n se ni igba miran	1 O n sele ni igba miran	2 O n se ni igba miran	3 O n se ni igba miran	4 O n sele deede
46.	Efori					
49.	Ai le jeun to tabi ajeju					
50.	Irora					
51.	Ai lesun to tabi oorun asunju					
52.	Rire ninu okan					
53.	Irora aya					
54.	Idun kidun okan					
55.	Eje riru					
56.	Sisanra tabi riru					
57.	Ai le mi dele					
58.	Ai ni fe si ibalopo					

ABALA É

AWON OHUN TI O N SE OKUFA IFOORO ATI ODIWON BI IFOORO SE PO SI

ODIWON IFOORO	ÀLÀYÉ
Ifooro yi po pupo	Isoro yi ma n dami laamu gidigidi,o tile n bimi ninu gidigidi. Mo tile ma n ronu nipa re nigba gbogbo.
Ifooro yi ko po pupo	Isoro yi ma n dami lamu leekookan to be ti ominu ma n ko mi lori bi mo se le dojuko.
Ifooro yi kopo rara	Isooro yi ko koja afarada
Ko si ifooro kankan rara	O ti di baraku, ko tile da mi laamu rara
Ko sele si mi rara	Iru isele bayi ko tile sele si mi rara

AWON OHUN TI O N SE OKUNFA IFOORO	ODIWON				
	Ifooro yi po pupo	Ifooro yi ko po pupo	Ifooro yi ko koja afarada	Ko si ifoor o kan kan rara	Eyi Ko sele si mi rara
AWON TI O N Ị SE PELU GBIBGE AYE MI TI O N FA IFOORO					
59) *Ironu nipa wipe eniyan o nipe ku mo*					
60) *Isoro nipa gbigba wipe otito ni esi ayewo HIV yi*					
61)*Sise ofo eni ti kokoro IIIV yi ti pa*					
62) *Ki aye su eniyan nitori kokoro IIIV yi*					
63) *Isoro nipa titoju awon aisan miran ti HIV n fa dani*					
64)Sise aseju a*kiyesi si awon ayipada kookan ti ohun sele ni ara nitori kokoro HIV yi*					
65)I*foro nipa wipe ki esin ko su eniyan nitori kokoro HIV*					
AWON OHUN TI O NII SE PELU IBAGBEPO EDA TI O N FA IFOORO					
66)*Isoro lati so fun elomiran wipe mo n gbe pelu kokoro HIV*					
67) *Didanikan wa nitori kokoro IIIV*					
68) *Dideye si eniyan ati yiya eniyan soto nitori kokoro IIIV*					

69) *Isoro ati ri ise to wu eniyan nitori kokoro HIV*					
70) *Isoro nipa ibalopo nitori kokoro H*					
71) *Isoro nipa* sise asaro lori ojo iwaju *Ti o n ti ipase HIV/AIDS*					
72) *Dindin ewu ati ko aisan miran ku*					
73) *Erokero lati pa ara eni nitori kokoro HIV*					
74) *Isooro nipa ajosepo pelu awon ore nitori kokoro IIIV·yi*					
AWON OHUN ELO FUN ITOJU TI O N FA IFOORO					
75) *Isoro aisi owo ti o ni se pelu kokoro HIV*					
76) *Isooro nipa ati gba itoju si kokoro HIV*					
77).Isoro *lati ma ri oko wo wa lati gba itoju fun kokoro HIV*					
78) *Minu oti tabi oogun oloro nitori ironu u kokoro IIIV*					
79) *Ki aye ma su eniyan nitori kokoro HIV*					
80) *Isoro lori gbigba itoju ni ile iwosan*					
81)Ironu nipa wipe eniyan o nipe ku mo					
82)Isoro nipa gbigba wipe otito ni esi ayewo IIIV yi					
83)Sise ofo eni ti kokoro HIV yi ti pa					
84)Ki aye su eniyan nitori kokoro HIV yi					

85)Isoro nipa nipa titoju awon aisan miran ti HIV n fa dani					
86)Akiyesi si awon ayiada kookan ti ohun sele ni ara nitori kokoro HIV yi					
87)Awon issro ti o n jeyo ni soosi tabi mosalasi si mi nitori kokoro HIV					
AWON OHUN TI O NII SE PELU IBAGBEPO EDA TI O N FA IFOORO					
.88)*Isoro lati so fun elomiran wipe mo n gbe pelu kokoro HIV.*					
89)Didanikan wa nitori kokoro HIV					
90)Dideye si eniyan ati yiya eniyan soto nitori kokoro HIV					
91)Isoro ati ri ise to wu eniyan nitori kokoro HIV					
92)Isoro nipa ibalopo nitori kokoro HIV					
93)Isoro nipa sise asaro lori ojo iwaju *Ti o n ti ipase HIV/AIDS*					
94)Dindin ewu ati ko aisan miran ku					
95)Erokero lati pa ara eni nitori kokoro HIV					
96)Isooro nipa ajosepo pelu awon ore nitori kokoro HIV yi					
AWON OHUN ELO FUN ITOJU TI O N FA IFOORO					
97)Isoro aisi owo ti o ni se pelu kokoro HIV					
98)Isooro nipa ati gba itoju si kokoro HIV					
.*99)Isoro lati ma ri oko wo wa lati gba itoju fun kokoro HIV*					

100)Mimu oti tabi oogun oloro nitori ironu u kokoro HIV					
101)Ki aye ma su eniyan nitori kokoro HIV					
102)Isoro lori gbigba itoju ni ile iwosan					

ABALA E

ÒNÀ ÀBÁYÒ	ÀLÀYÉ
Gbigba kamu	Gbigba ohun ti o sele bi o ti ri, wipe ko si ohun ti eniyan lee se nipa ayipada re
DIdojuko isoro	Wiwa ona abayo gan ti o je ojulowo idahun si isoro
Ibinu	Ki inu ma tete bi eniyan nipa isoro na.Eniyan tile le ma se ereke eebu tabi maa se epe, tabi ki eniyan ki o ma a ba nkan je
Yiyago fun	Wiwa ona abayo miran bi eni wipe ohunkohun ko sele, fun apeere, ki eniyan maa yeba kuro ni ibi ti eniyan ti le gbo aheso oro kankan nipa isooro yi
Ebi dida	sise alaye ohun ti o se okunfa wahala yi
Ekun sisun	Kikaanu ara eni,ki isele si je edun okan gidigidi
Ero rere	Riro ero awon ohun to wu o ko sele si o

AWON OHUN TI O N FA IFOORO	AWON ONA ABAYO						
	Gbigbakamu	Didojuko	Ibinu	Yiyoisorosilc	Ebidida	Ekunsisun	Rirorerorerc
AWON OHUN TI O N I SE PELU GBIBGE AYE MI TI O N FA IFOORO							
81)Ironu nipa wipe eniyan o nipe ku mo							
82)Isoro nipa gbigba wipe otito ni esi ayewo HIV yi							
83)Sise ofo eni ti kokoro HIV yi ti pa							
84)Ki aye su eniyan nitori kokoro HIV yi							
soro nipa nipa titoju awon aisan miran ti HIV n fa dani							
86)Akiyesi si awon ayiada kookan ti ohun sele ni ara nitori kokoro HIV yi							
87)Awon issro ti o n jeyo ni soosi tabi mosalasi si mi nitori kokoro HIV							
AWON OHUN TI O NII SE PELU IBAGBEPO EDA TI O N FA IFOORO							
.88)*Isoro lati so fun elomiran wipe mo n gbe pelu kokoro HIV*							
89)Didanikan wa nitori kokoro HIV							
90)Dideye si eniyan ati yiya eniyan soto nitori kokoro HIV							
91)Isoro ati ri ise to wu eniyan nitori kokoro HIV							
92)Isoro nipa ibalopo nitori kokoro HIV							

AWON OHUN TI O N FA IFOORO	AWON ONA ABAYO						
	Gbi gba kam u	Dido juko	Ibi nu	Yi yo iso ro sil e	Ebi dida	Eku n sisu n	Riro ero rere
AWON OHUN TI O N I SE PELU GBIBGE AYE MI TI O N FA IFOORO							
81)Ironu nipa wipe eniyan o nipe ku mo							
82)Isoro nipa gbigba wipe otito ni esi ayewo HIV yi							
83)Sise ofo eni ti kokoro HIV yi ti pa							
84)Ki aye su eniyan nitori kokoro HIV yi							
soro nipa nipa titoju awon aisan miran ti HIV n fa dani							
86)Akiyesi si awon ayiada kookan ti ohun sele ni ara nitori kokoro HIV yi							
87)Awon issro ti o n jeyo ni soosi tabi mosalasi si mi nitori kokoro HIV							
AWON OHUN TI O NII SE PELU IBAGBEPO EDA TI O N FA IFOORO							
.88)*Isoro lati so fun elomiran wipe mo n gbe pelu kokoro HIV*							
89)Didanikan wa nitori kokoro HIV							
90)Dideye si eniyan ati yiya eniyan soto nitori kokoro HIV							
91)Isoro ati ri ise to wu eniyan nitori kokoro HIV							
92)Isoro nipa ibalopo nitori kokoro HIV							

93)Isoro nipa sise asaro lori ojo iwaju *Ti o n ti ipase HIV/AIDS*							
94)Dindin ewu ati ko aisan miran ku							
95)Erokero lati pa ara eni nitori kokoro HIV							
po pelu awon ore nitori kokoro HIV yi							
AWON OHUN ELO FUN ITOJU TI O N FA IFOORO							
97)Isoro aisi owo ti o ni se pelu kokoro HIV							
98)Isooro nipa ati gba itoju si kokoro HIV							
.99)Isoro *lati ma ri oko wo wa lati gba itoju fun kokoro HIV*							
100)Mimu oti tabi oogun oloro nitori ironu u kokoro HIV							
101)Ki aye ma su eniyan nitori kokoro HIV							
102)Isoro lori gbigba itoju ni ile iwosan							

ABALA F

GBOGBO ONA ABAYO LAPAPO AWON ONA MIRAN TI A FI N LA IDAAMU TABI IFOORO KOJA LORI KOKORO HIV

O wu mi ki e so fun mi awon ise miran ti e ti n mulo ,tabi ti e fe mulo,tabi ti enilo tabi ti o wu lati mulo gege bi ona abayo si awon ifooro ti o n waye(E jowo e sami si eyi ti o je idahun yi

ONA ABAYO MIRAN	OHUN NI MO N SE	OHUN MO FE SE	MI O SE EYIKEYI
103) (Adura gbigba si olorun fun emi gigun			
104)Adura gbigba si olorun fun iwosan			
105)Kin ma so esi ayewo mi fun eni keni tabi awon			
106)Kiko imoran si awon alakoso ile iwosan			
107)Wiwa atileyin lati odo ebi tabi ijo oloruntabi odo awon olugbaninimoran ni ile iwosan			
108)Wiwa ise miran ti o dara ju eyi ti mo nse yi lo			
109)Titesiwaju ni eto eko mi			
110)Bibere ibeere lowo awon osise eto ilera			
111)Lilo ipade awa arawa ti oro yi kan			

112) E so awon ona miran ti en gba lati doju awon isoro to HIV yi n fa_____

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_____

IPARI ATI OPE

A ti de opin iforojomitoro oro wa..Mo dupe pupo fun ifarasile yin.Nje e ni ibeere ti e fe beere tabi ohun ti on ti o ru yin loju ti e fe ba mi so

Ibeere

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INSTITUTE FOR ADVANCED MEDICAL RESEARCH AND TRAINING (IMRAT)
COLLEGE OF MEDICINE, UNIVERSITY OF IBADAN, IBADAN, NIGERIA.

Telefax: 234-2-2410088/3310, 3120, 3114, 3594, Fax: 234-2-2413545,
07028383980, 07028383039. E-mail: imratcomui@yahoo.com
DIRECTOR: Prof. C. A. Adebamowo *BMChB Hons (Jos), FWACS, FACS, Dsc (Harvard)*

UI/UCH EC Registration Number: **NHREC/05/01/2008a**

NOTICE OF FULL APPROVAL AFTER FULL COMMITTEE REVIEW

Re: Stressors and Coping Mechanism among Women Living with HIV who attend President Emergency Program for AIDS Relief (PEPFAR) Clinic, University College Hospital, Ibadan

UI/UCH Ethics Committee assigned number: UI/EC/08/0121

Name of Principal Investigator: Adefolarin Adeyinka

Address of Principal Investigator: Department of Health Promotion & Education, College of Medicine, University of Ibadan

Date of receipt of valid application: 21/10/2008

Date of meeting when final determination of research was made: N/A

This is to inform you that the research described in the submitted protocol, the consent forms, and other participant information materials have been reviewed and *given full approval by the UI/UCH Ethics Committee.*

This approval dates from 22/04/2009 to 21/04/2010. If there is delay in starting the research, please inform the UI/UCH Ethics Committee so that the dates of approval can be adjusted accordingly. Note that no participant accrual or activity related to this research may be conducted outside of these dates. *All informed consent forms used in this study must carry the* UI/UCH FC *assigned number and duration of* UI/UCH EC *approval of the study.* In multiyear research, endeavour to submit your annual report to the UI/UCH EC early in order to obtain renewal of your approval and avoid disruption of your research.

The National Code for Health Research Ethics requires you to comply with all institutional guidelines, rules and regulations and with the tenets of the Code including ensuring that all adverse events are reported promptly to the UI/UCH EC. *No changes are permitted in the research without prior approval by the* UI/UCH EC *except in circumstances outlined in the Code. The* UI/UCH EC *reserves the right to conduct compliance visit to your research site without previous notification.*

UI/UCH EC

Dr. A. A. Adenipekun,
Chairman, Medical Advisory Committee,
University College Hospital, Ibadan, Nigeria
E-mail:uituchire@yahoo.com