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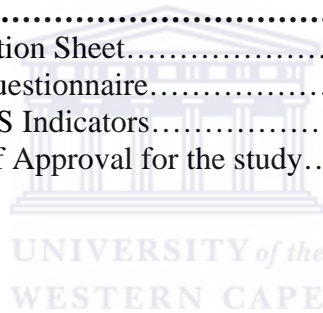
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LIST OF ABBREVIATIONS

AIDS- ACQUIRED IMMUNODEFICIENCY SYNDROME

CBO- COMMUNITY BASED ORGANIZATION

CBOH- CENTRAL BOARD OF HEALTH

CSO- CENTRAL STATISTICS OFFICE

FBO- FAITH BASED ORGANIZATION

HIV- HUMAN IMMUNODEFICIENCY VIRUS

IEC- INFORMATION EDUCATION COMMUNICATION

KABP- KNOWLEDGE, ATTITUDES BEHAVIOUR & PRACTICES

MOH- MINISTRY OF HEALTH

NGO- NON-GOVERNMENTAL ORGANIZATION

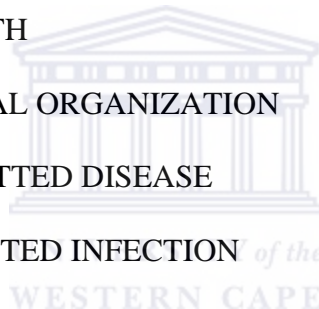
STD- SEXUALLY TRANSMITTED DISEASE

STI- SEXUALLY TRANSMITTED INFECTION

UNAIDS- JOINT UNITED NATIONS PROGRAMME ON HIV/AIDS

WHO- WORLD HEALTH ORGANIZATION

ZDHS- ZAMBIA DEMOGRAPHIC AND HEALTH SURVEY



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ABSTRACT

The aim of the study was to assess the factors associated with HIV risk behaviours in women in Livingstone, Zambia. A cross-sectional analytical survey using a structured questionnaire was carried out in two sites in Livingstone, which were selected on the basis of differences in socio-economic status. 130 women aged 15-49 years were randomly selected using a 10% systematic sample of households and the data generated was then put in categories and analyzed using EPI INFO version 2000.

The results indicate that the mean age for the entire study population was 29.5 years. There were 3.1 % (n=2) of the women who revealed their HIV sero-status while 4.6 % (n=3) were in polygamous marriage. Among respondents from the urban community 47.7 % (n=31) had attained secondary education compared to 55.4 % (n=36) from the peri-urban community. The urban community had a higher proportion of women (16.6%) who had attained College/University education than the peri-urban community 1.6 % (n=1). Among the respondents from the urban community 60% (n=39) were unemployed compared to 84.6% (n=55) in the peri-urban community. Less women in the urban community 43.1% (n=28) had income levels below K250,000=00 than their counter parts from the peri-urban 67.7% (n=44). The study revealed that there was an association between HIV risk behaviours with residence ($p=0.034$) as well as marital status ($p=0.046$). Married women were more at risk of contracting HIV (62.1%) than women who were not married (34.9%). Women in urban area were more likely to report HIV risk behaviours (62.8%) than women in the peri-urban area (37.2%). Married women and women in the urban community are at high risk of contracting HIV and every effort should be made to ensure that HIV/AIDS programmes help to reduce

their vulnerability to HIV infection.



CHAPTER ONE

1.0. INTRODUCTION

The challenges that women face have risen sharply as more and more women are infected with HIV everyday (UNAIDS, 2000; Henry, 1994). As a consequence of powerful economic, social, cultural and religious forces that keep them dependent on men, many are unable to make decisions that could protect them from HIV (Mann & Tarantola, 1996; Henry, 1994; Morris, 1997).

In spite of existing data highlighting the danger women face with respect to HIV/AIDS, many still believe that their risk is low as long as they remain faithful to their husbands or partners (Morris, 1997; Weiss *et al.*, 2000; Chatterjee, 1999). This study sought to assess factors associated with HIV risk behaviours amongst women living in Livingstone District of Southern Province in the Republic of Zambia.

In the study, background information will be provided to define the HIV/AIDS problem. Literature on economic, political, social and cultural issues that may influence women's participation in decision-making will be reviewed and aims and objectives formulated.

Further, the methodology used in the study will be presented and the results obtained will be analysed and discussed. Recommendations and conclusions of the study will be made based on the findings of the study.

1.1 Background

HIV/AIDS is affecting the health of millions of people throughout the world. UNAIDS estimated that at the end of 2005 a total of 40.3 million people (36.7 - 45.3 million; 95% CI) were living with HIV/AIDS worldwide (UNAIDS 2005). It was estimated that 4.9 million (4.3-6.6 million; 95% CI) people were newly infected with the virus in 2005 (UNAIDS, 2005).

HIV/AIDS is listed as a leading cause of death among adults aged between 15 and 49 years. In spite of improved access to antiretroviral treatment and care in many parts of the world, an estimated 3.1 million people (95% Confidence Interval (CI) 2.8-3.6 million) lost their lives to the disease in 2005 (UNAIDS, 2005). Though the number of people living with HIV has been increasing in nearly all regions of the world, sub-Saharan African countries remain the hardest hit (UNAIDS, 2005). The UNAIDS report (2005) indicated that 25.8 million (95% CI, 23.8-28.9 million) people were living with HIV in sub-Saharan Africa and this constituted two thirds of all people worldwide. An estimated 3.2 million (95% CI, 2.8-3.9 million) became infected with HIV and 2.4 million (95% CI, 2.1-2.7 million) people died of HIV-related illnesses in sub-Saharan Africa in 2005 (UNAIDS, 2005).

The proportion of women being affected by the epidemic has continued rising. In 2005, 17.5 million (95% CI, 16.2-19.3 million) women were living with HIV in the world, with 13.5 million (95% CI, 12.5-15.1 million) women in sub-Saharan Africa (UNAIDS, 2005). The UNAIDS report (2005) further indicated that HIV infection among pregnant women was greater than 20% in sub-Saharan Africa. Among young people aged 15-24 years, an estimated 4.6% (95% CI, 4.2%-5.5%) of women and 1.7% (95% CI, 1.3%-2.2%) of men were living with HIV in 2005 (UNAIDS, 2005).

Zambia is situated in sub-Saharan Africa and is one of the fourteen countries that constitute the Southern African Development Community (SADC), all of which are severely affected by HIV/AIDS. Zambia is a young democracy and has a population of 10.2 million (CSO, 2001) with approximately 43% living in urban areas.

The literacy rate in Zambia is 70%, and approximately 73% of the population lives in poverty (UNAIDS, 2004) with an external debt of US \$6.5 billion by the end of 2004.

Livingstone is the tourist capital of Zambia and has borders with three countries, namely Zimbabwe, Namibia and Botswana. It is the city with the highest prevalence of HIV/AIDS in Zambia (National AIDS Council of Zambia, 2004). The major modes of transmission in Zambia are heterosexual intercourse accounting for over 78%, perinatal 21 % and others 1% (National AIDS Council of Zambia, 2004). The latest annual sentinel survey showed that 30.9% of the expectant mothers attending antenatal clinics in the district were sero-positive (National AIDS Council of Zambia, 2004). Patients with HIV/AIDS take up 70% of the bed occupancy in the Medical Wards (National AIDS Council of Zambia, 2004). Many HIV patients require chronic care and unfortunately women bear the greatest burden of providing this care.

1.1.1 Socio-economic situation

Livingstone hosts the mighty Victoria Falls and hence tourism is the major industry in Livingstone. This city used to boast a thriving textile industry between the 1980s and 1990s but it has collapsed leaving one seriously limping blanket factory. With the whole of the country undergoing structural adjustments under the IMF and World Bank policies of creating liberal markets by privatizing the public sector industries, a number of employees were retrenched as a way of reducing the workforce in these enterprises.

At the moment, the majority of the unemployed populace survives from cross-border trading while those who are still in formal employment are mainly with Government Ministries and their wages are lower than one US dollar per day (UNDP, 2004). Those employed by the private sector are mainly involved in the hospitality industry such as hotels and lodges and their wages, though low, are better than those employed in the public sector.

The Zambia Demographic and Health Survey (ZDHS) of 2001-2002 documented that in Southern Province, where Livingstone is situated, 60.9% of the women were unemployed as compared to 45.8% of the men (ZDHS, 2003). The report further indicated that 36.1% of the women were illiterate as opposed to 19.5% of the men.

Livingstone has sandy soils and crops of commercial value are difficult to grow, as they constantly require water. Worse still, the rainfall patterns over the past ten years have been inadequate and inconsistent leading to crop failure. However, small-scale farming mostly under irrigation does exist, but mainly in the outskirts of Livingstone producing fruits and vegetables for sale.

1.1.2 HIV/AIDS situation

As a result of Livingstone being a major tourist destination and also being a border town, its residents have the opportunity to have many social interactions that lead to high-risk behaviours among the people. As mentioned earlier heterosexual and perinatal transmission are the two major modes of HIV transmission (National HIV/AIDS Council, 2004). As a result, persons who are in the reproductive ages of 15-49 years have been seriously affected as well as children under the age of five years.

There is no cure for HIV/AIDS although several antiretroviral drugs have been developed to slow down viral replication in infected persons and prolong their lives.

The high death rate due HIV-related illnesses in young age groups has a serious negative impact on the country's development. Prevention of HIV/AIDS infections is the key to reducing the burden of HIV in the country. Therefore, a number of measures are being put in place to mitigate the spread of HIV/AIDS in Livingstone. A number of NGOs (non-government organisations), CBOs (community based organisations), FBOs (faith based organizations) and government line ministries, are providing various services ranging from counselling, home-based care, IEC, general awareness campaigns and more recently, antiretroviral treatment. Others have established support services for orphans and vulnerable children who have emerged as a consequence of HIV/AIDS.

Despite these measures it appears that the infection rate has not significantly reduced as the National AIDS Council report (2004) indicated that HIV prevalence among antenatal women tested in urban areas had increased from 5% in 1985 to 27% in 1992 and 28% in 2002. Research is required to investigate and seek strategies to effectively reduce HIV transmission.

1.1.3 Health services

Livingstone District inherited predominantly curative health services from the British colonialists and therefore there are no serious preventive health services though efforts are being made to focus on prevention. Livingstone has a 500-bed-and-cot capacity at the general hospital consisting of two wings, the Batoka medical wing and the Livingstone surgical wing, commissioned in the 1940s and 1956, respectively. Livingstone also has 15

clinics.

Currently, the health services provided are inadequate as the hospital caters for other surrounding districts, for example, Kazungula, without any health facility which completely surrounds Livingstone.

The vision of government has been to prevent and control the spread of HIV/AIDS, promote care for those that are infected or affected, and reduce the personal, social and economic impact of the pandemic.

It was acknowledged that the initial responses to HIV/AIDS were inadequate, and that the following were needed: integrated programmes to foster political commitment at the highest possible level; and inter-sectoral approaches encompassing all government ministries, the private sector and civil society and full involvement of people living with HIV/AIDS. In the absence of interventions such as cure or vaccines against HIV/AIDS, alternative strategies for reducing women's vulnerability to HIV infection are a high priority.

Such strategies could provide a platform for women to declare war against HIV/AIDS, agitate for drastic measures to address their status and rights as they relate to HIV/AIDS as well as wage a vigorous campaign against continuously being the target of further marginalisation (Calderon, 1997; Abdool- Karim, 2001).

CHAPTER TWO

LITERATURE REVIEW

2.0 INTRODUCTION

This section will provide an overview of the HIV/AIDS pandemic in sub-Saharan Africa and will review the literature on economic, political, social and cultural issues that may lead to women's risky behaviours.

2.1 Variations in transmission rates

The HIV/AIDS pandemic has threatened women everywhere but the threat is more pronounced in developing countries especially in sub-Saharan Africa (UNAIDS 2005; Norr *et al.*, 1992). This is supported by statistics from UNAIDS (2005) which indicated that of the 3 million women infected with HIV worldwide, 2.5 million are in sub-Saharan Africa. Latin America and the Caribbean were the regions with the second-highest HIV/AIDS prevalence in women while HIV/AIDS prevalence in Asia was still relatively low but with the potential of rapidly rising (UNAIDS 2005; Norr *et al.*, 1992).

The routes of transmission for HIV infection differ among women in different regions of the developing world, but sexual contact is the most important route. In sub-Saharan Africa, heterosexual transmission is by far the predominant mode of transmission, with women accounting for approximately 50% of all the cases (UNAIDS, 2004). The UNAIDS report (2004) stated that in Latin America, the Caribbean and Asia both the use of intravenous drug use and sexual transmission were important routes of transmission. In these regions, sexual transmission is both homosexual and heterosexual, with bisexual males being an important route in Latin America (UNAIDS, 2005; Norr *et al.*, 1992).

Men tend to use more intravenous drugs, though female partners are at risk of contracting HIV through sexual contact (Norr *et al.*, 1992). Intravenous drug use is not a common route of HIV transmission in Zambia or other countries in sub-Saharan Africa (UNAIDS, 2005).

The prevalence of HIV infections between different regions in sub-Saharan Africa could not be explained by differences in sexual behaviour patterns alone (Buve *et al.*, 2002) nor could they be explained by differences in date of introduction of the virus (Buve *et al.*, 2002). Furthermore the differences in prevalence were not explained by variations in circulating subtypes of HIV (Morrison *et al.*, 2001).

It appears that the spread of HIV is determined by a complex interplay of sexual behaviour which includes the rate of partner change and sexual mixing patterns between different age groups or both as well as biological factors that affect the probability of HIV transmission per sexual act (Kalipeni, 2000; Abdool-Karim, 2001; Gregson *et al.*, 2004; Buve *et al.*, 2002). The study by Buve *et al.* (2001) also drew attention to the high prevalence of HIV and other sexually transmitted infections in young women in many parts of sub-Saharan Africa. A higher prevalence occurred amongst female adolescents in Zimbabwe, South Africa and Zambia than amongst male adolescents and the prevalence in females continues to rise (Laga *et al.*, 2001; Auvert *et al.*, 2001).

In a large commercial farming centre in South Africa, for instance, HIV prevalence in pregnant women increased from 32% in 1995 to 59% in 1996 (Abdool-Karim, 2001).

The Zambia Demographic and Health Survey (ZDHS, 2003) indicated that 16% of the population aged between 15 and 49 years, around one in every six individuals in this age group is HIV positive.

This infection rate is substantially higher among women (18%) than men (13%). The ZDHS (2003) documents a rapid increase in HIV prevalence with age.

The proportion found to be HIV-positive rises from a level of 5% among 15- to 19-year olds to 25% among those individuals aged 30 - 34 years, before falling to a level of 17% among the 45 - 49 years age group (ZDHS 2003).

Further, life expectancy at birth has significantly reduced from 51 years in the early 1990s to 39.7 years in 2002 (CSO, 2000; UNAIDS/WHO, 2004). The number of orphans has been estimated to be more than 700,000 and is expected to rise to over one million in a few years (National AIDS Council, 2004). The epidemic is wiping out the historic gains made in health, education and social development over the last years (Public Service Reform Program Bulletin, 2000). Understanding the factors that influence sexual debut, partner acquisition, sexual networking and initiation into risky sexual behaviours from the female perspective in the overall socioeconomic, biological and socio-cultural context, will help to identify strategies that could help in scaling down the HIV infection rates in Africa (Abdool-Karim *et al.*, 1992; Abdool-Karim, 2001).

Several studies have shown that HIV/AIDS is a complex socioeconomic development problem which must be integrated into a broad-based effort that will not only reduce HIV/AIDS but ameliorate the precarious conditions that put the majority of the world's inhabitants at risk to this and other developmental diseases (Calderon, 1997; De Vogli & Birbeck, 2005; Gregson *et al.*, 2004; Norr *et al.*, 1992; Kalipeni, 2000).

At the individual level, the pandemic has moved beyond predominantly affecting "high-risk" groups associated with HIV/AIDS at the outset, to general populations, particularly women and those living in poverty (Calderon, 1997).

Calderon (1997) further states that the virus is fuelled by poverty, precarious health conditions, illiteracy, the status of women, as well as other socio-cultural, structural and environmental factors. It is known that HIV/AIDS is a symptom of inequitable and dysfunctional development processes (Calderon, 1997; Cohen, 2004).

2.2. HIV/AIDS in women

As HIV/AIDS evolves, epidemiological data suggest that it is increasingly affecting two groups that have always been the most vulnerable to infectious diseases, namely women and children. Calderon (1997) further stated that the epidemiology was once characterised by infection rates that were 12 times higher in men than in women, HIV/AIDS was now increasing, affecting women as evidenced by declining male to female ratio. For instance, in the Americas as a whole, the male to female ratio of reported cases fell from 12:1 in 1986 to 3:7 in 1994 (Calderon, 1997).

In the Caribbean, the ratio was 1.5 males to 1 female, while in Africa it was 0.87 male to every female by 1997 (Calderon, 1997). With the increasing number of women becoming infected, this trend clearly indicates that biological, socioeconomic and cultural factors continue to make women more vulnerable to HIV infection (Calderon, 1997). Women's awareness of safer sex practices is of critical importance in reducing HIV sexual risks (Quina *et al.*, 1997).

HIV/AIDS researchers believe that biological factors enhance the transmission of HIV from men to women. Research indicates that women are, due to physiological reasons, two to four times more vulnerable to HIV infection than men during unprotected sexual intercourse because of larger surface areas exposed to contact with the virus (Fowler *et al.*, 1997; Heise & Elias, 1995).

The presence of other STIs in women, which may remain untreated, as they may remain asymptomatic, will greatly enhance the risk of HIV in women. However, numerous other factors exist which make women more vulnerable to HIV infection.

Some studies have focused on specific factors related to women's increased vulnerability to HIV/ AIDS infection such as polygamy, lack of abstinence, multiple sexual partners, failure of the use of condoms and none or late treatment of sexually transmitted infections (STIs) in order to formulate guidelines for prevention (Worth, 1989; Mac Phail & Campbell, 2001; Ogunjuyigbe & Adeyeni, 2005; Abdool-Karim, 2001; Chin 1999; Norr et al., 1992; De Zoysa, 1996; Gregson, 2004; De Vogli & Birbeck., 2005; Fawzi, 2005, McCoy et al., 1996, Chatterjee 1999; Simbulan et al 2001; Weinhardt et al 2005; Weiss et al 2000; Sobo 1993; Wingood et al 2004; Orubuloye et al 1993; Gyles et al 2002; Larson 1989; Alves 2003; Skidmore & Hayter 2000; Ulin 1992).

Recently, social and contextual factors have been recognised to increase women's vulnerability to HIV/ AIDS infection (Abdool-Karim, 2001).

2.3. Risk Factors for HIV Transmission

2.3.1. Condom usage

In a study on sexual decision making and why condom promotion is likely to fail among vulnerable women, Worth (1989) found that women stated that men had little or no control over themselves when it came to sex and that men wanted sex on demand and could not tolerate the lack of spontaneity that condom use involved.

The perception that condoms were unattractive and uncomfortable for men, made women reticent in suggesting or insisting on their use. Further, condoms were also perceived by many as symbols of being involved in other relationships (Abdool-Karim, 2001; Chin 1999; Norr *et al.*, 1992).

Condom use had to be re-negotiated with every sexual contact and this made it difficult for the women who did not have control in sexual decision making. Furthermore, having children is considered an important goal for many women thus making it difficult to promote safe sex by using condoms. (Mac Phail & Campbell, 2001; Ogunjuyigbe & Adeyeni 2005).

Condom use and other risk-reducing behaviours are problematic in long-term unions, not least because many people believe that a committed relationship should in self provide protection from HIV infection and other sexually transmitted infections (De Zoysa, 1996). Furthermore, Abdool-Karim (2001) found that condom usage was rare and inconsistent and also the skill of how to use the condoms was lacking among the two communities of Nkalungwane and KwaXimba that were surveyed in South Africa. Ninety-six per cent (96%) of the women who were sexually active were not using condoms at the time of the survey and 82.4% were reported as not having the skill to use the condoms. Other reasons given by these communities for not using the condoms included childbearing, mutual trust and intimacy (Abdool-Karim, 2001

2.3.2 Socioeconomic factors

Simon Gregson *et al.*, (2004) conducted a stratified population-based survey in Manicaland, Zimbabwe between July 1998 and January 2000 involving women aged between 15 and 44 years to explore how social capital and school education in rural Zimbabwe could help women avoid HIV infection. The study consisted of 2268 women and the results showed that membership of youth groups was positively associated with avoiding HIV infection (OR 1.33; $p=0.039$) and that young women's chances of having avoided HIV were strongly associated with both experience of secondary education (OR 1.90; $p<0.001$) and having remained single (OR 2.58; $p<0.001$).

The study further revealed that young women with greater knowledge about HIV/AIDS were more likely not to yet be sexually active. Those that perceived themselves to have been vulnerable to HIV infection were more likely to have had more than one partner and the young women who stated that it was possible for them to avoid HIV infection were more likely not to be sexually active, the study by Gregson (2004) showed. Women who reported that they could persuade their partner to avoid unprotected sex with casual relationships were more likely to have avoided infections while women with higher levels of school education had better knowledge about HIV/AIDS (Gregson, 2004), however, high level of education was not related to perceived vulnerability to HIV infection (Gregson, 2004).

Worth (1989) found that due to women's lack of economic opportunities, sex became an economic commodity for them as they turn to prostitution to support themselves, their partners and their children. De Vogli & Birbeck, (2005) in a pre- and post-evaluation study of sub-Saharan economies before and after adjustment policies, found that socioeconomic conditions of women were determined by a series of hierarchical factors that interacted with one another at different levels. These factors correspond to family income (house hold level), food prices, real wages, employment opportunities (meso level) and economic policies, health policies and the social welfare system (macro level). De Vogli & Birbeck, (2005) argued that any adjustment at macro level would impact on social indicators such as access of women to shelter, food, health care and education and ultimately facilitate their exposure to HIV/AIDS. Economic reforms that decrease access to basic needs for poor households would eventually result in increased exposure of women to HIV/AIDS and conversely economic growth that leads to increased access to

basic goods and services for the most vulnerable families could significantly reduce their exposure to HIV infection (De Vogli & Birbeck, 2005).

Further, in a study by Jochelson *et al.* (1991) it was revealed that limited economic opportunities force men to seek employment away from their homes and communities resulting in the separation from partners and their families for varying periods of time, thus encouraging the establishment of sexual relationships at places of employment.

Abdool-Karim (2001) found that the majority of the women (97%) in communities of Nkalungwane and KwaXimba, South Africa that were surveyed received money from their partners such that these relationships formed part of their survival strategy. The women's exclusion from the main economy, high rates of unemployment and their low level of education limited their opportunities for economic independence (Abdool-Karim, 2001).

2.3.3 Decision making

Ogunjuyigbe & Adeyeni (2005) carried out a combined qualitative and quantitative survey in Lagos, Nigeria involving 244 married women aged between 15 and 49 years to ascertain their sexual control within the conjugal union and the study revealed that 72% of the women knew about condoms but only 31% had ever used them. While those who had used condoms said the main reason for using them was to prevent STIs and pregnancy. The percentage of women who believed that it was impossible for a woman to reject sexual advances from her husband was determined at 65.5%. However, 58% of professional women said they could refuse their husbands sex if they did not want it and 80% of the women who were either divorced or separated said that they could say no to sex.

Ogunjuyigbe & Adeyeni (2005) used multistage sampling to ensure that the sample size was more representative and involved three study sites, in the Lagos metropolitan city. Similar results were found by Worth (1989) who indicated that traditional gender role behaviour often meant that women lacked control in sexual decision making.

Caldwell and Caldwell's (1989) study revealed that social and cultural systems in many African societies dictated that women had no control over their sex lives or sex lives of their partners outside marriage. Buve *et al.* (2002) stated that although extramarital affairs were being tolerated by both sexes in many parts of Africa, most cultures had rules requiring women to have very little sexual experience before marriage and to remain monogamous thereafter, while men's premarital and extramarital sex was tolerated.

Wives were not allowed to refuse their husbands sex or to insist on using a condom even if the husband was infected with HIV. This showed that women's subordinate position in the society does impact on safe sex education (Buve *et al.*, 2002). Zulu *et al.* (2000) further argued that young men and boys were often encouraged by peers to demonstrate masculinity through early sexual initiation and many sexual conquests. It was also found that poor communication between men and women about sexual and reproductive health matters severely constrained the adoption of risk-reducing behaviours (De Zoysa *et al.*, 1996). A survey carried out by Ankrah (1989) among women in Uganda revealed that the women perceived themselves to be more in danger of HIV infection than men because:

- a) Women were less able to make decision about sex.
- b) Their husbands were free to have many partners
- c) The age of the women's first sexual contact was usually between 14 to 15 years of age.

At this age it is believed that the girls might not be in a strong position to make informed decisions.

2.3.4. Multiple sexual partners

During a literature review on strategies of how to reduce HIV transmission in stable relationships De Zoysa *et al.* (1996) found the following:

Rwandan studies (Chao *et al.*, 1994) showed that sero-prevalence was related to having a number of sexual partners and 56.4% of women who reported to have three or more sexual partners other than their current stable partner were sero-positive.

In a study in Zimbabwe Gregson (1998) found that those that perceived themselves to have been vulnerable to HIV infection were more likely to have had more than one partner (OR 1.77; $p=0.007$).

In a study in KwaZulu-Natal (Abdool-Karim, 2001) women were reported to rarely have multiple partners but those who regarded having multiple partners (53%) simultaneously, as a common phenomenon stated the following reasons:

- i. Need for money (53.4%)
- ii. Retribution for infidelity of partner (13.8%) and
- iii. Sexual satisfaction (11.2%)

In addition, Nabarro & McConnell (1989) observed that it is often the case that women themselves do not engaging in risky behaviours but they are exposed to HIV/AIDS as result of their partner's sexual activities.

2.3.5 Forced sex

In a cross-sectional study accompanied by in-depth interviews, Fawzi *et al.* (2005) investigated factors associated with forced sex among women accessing health services in rural Haiti and implications on the prevention of HIV infection and other STIs.

The study randomly selected 749 women who were visiting an STI clinic and found that fifty-four per cent (54%) of the women accessing services at the women's health clinic had experienced forced sex in their lifetime and 68% of the women who experienced forced sex were 30 years and younger. The majority of the women were farmers and the women's partners generally had a higher level of education (65%) and were older (mean age 33 years). Fawzi *et al*, (2001) study also revealed that 31% of the respondents' income was spent on food and among the women who experienced forced sex, the mean age at first sexual intercourse was 18 years (average 0-29 years). The mean age at first sexual intercourse and the mean number of lifetime sex partners were comparable to women who did not experience forced sex (Fawzi *et al*, 2001). In a study by Abrahams *et al*, (2004), in Cape Town, South Africa, it was revealed that sexual coercion and sexual violence perpetrated by intimate partners was common. The study indicated that women with violent or controlling male partners were at increased risk of HIV infection and that the abusive men who may be more likely to have HIV and could impose risky sexual practices on their partners (Jewkes *et al*, 2002; Abrahams *et al*, 2004).

2.3.6 Alcohol consumption & drug abuse

McCoy *et al*. (1996) conducted a study to examine the correlation between sex, drugs and the spread of HIV/AIDS in Belle Glade, Florida. A saturated community model was employed to recruit 278 participants, of whom 91.7% were Black Americans. Systematic unstructured interviews and field observations were performed. It was found that male and female crack users were using sex exchange to finance their drug habits and were mainly targeting women with low socioeconomic status.

Men's control over women carried with it the ability to mandate risky activities while drugs influenced the ability of the clients not to use safer sex practices.

In a study by Morrison *et al.* (1998) it was revealed that alcohol consumption was associated with riskier sexual practices from both the peri-urban and the rural communities as reported consumption of alcohol before sex made it very difficult to discuss safer sex practices. A study in South Africa revealed that a great proportion of rural women (61.6%) and their urban counterparts (45.3%) responded affirmatively to the use of drugs and alcohol to enhance their sexual pleasure (Abdool-Karim, 2001)

2.3.7 Other factors associated with increased vulnerability

A summary of literature of the studies conducted to investigate factors that are associated with women's increased vulnerability to HIV infection revealed that a number of factors are involved.

In Ghana, Awusabo-Asare *et al.* (1993) in their study found that women's prevailing belief that sex is a man's prerogative is the major barrier in them successfully adopting safer sex practices.

Stoneburner (2003) and Low-Beer (2004) examined the sexual behaviour surveys that were conducted in Uganda in 1989 and 1995 and found that the biggest changes in risk behaviour were attributable to delayed onset of sexual activities, abstinence and decreased number of partners. The study reported a 60% reduction in people reporting casual sex, an increase in the proportion of 15 to 19 year olds who abstained from sex and a decrease in pre-marital sex among the youth aged 15 to 24 years who were not married (from 60% to 23% in men and from 53% to 16% in women).

Gregson *et al.* (1998) using KABP cross-sectional survey involving 1237 women aged 13 to 49 years, conducted a study in Manicaland, Zimbabwe from March till June 1994 to find out if there was evidence of behavioural change in response to awareness of HIV/AIDS in rural Zimbabwe. The study examined self-reporting data on two areas of behaviour; action taken to avoid HIV infection and fertility practices. The study revealed that extramarital sex among married women was believed to be rare and that single or divorced women were more likely to have multiple partners. Further the study by Gregson showed that 50% to 60% of the women were more likely to engage in regular commercial sex while forty-three per cent (43%) of women aged 15-49 years said they felt in personal danger of becoming infected because of their husbands or regular partners who had other partners. Four per cent (4%) said it was because they had multiple partners themselves while divorced and separated women were most likely to report feeling in danger (53%) and 22% of these women said it because they had multiple partners themselves (Gregson, 1998). Further, the study by Gregson (1998) revealed that forty-four per cent (44%) of women aged 15-49 years reported taking action to avoid HIV infection while Forty-seven per cent (47%) of women who were currently in stable relationships stated they had discussed HIV/AIDS with their regular partners and 10% had reported using condoms to avoid HIV infection. Ninety-two percent (92%) of married women reported monogamy or no action (Gregson, 1998).

Gregson (1998) revealed that divorced women were said to fall into two categories:

- Those who felt in danger of infection i.e. including those who felt in danger because of having multiple partners, tended to report condom usage (33%).

- Those who did not feel in danger personally were most likely to report abstinence (50%), monogamy (23%) or no action.

Women in unions with greater knowledge about HIV were more likely to report monogamy, condom use and discussing HIV/AIDS with regular partners than other women and were more likely to report that their partners had taken action to avoid infection. In addition, condom use was generally considered less appropriate within stable unions.

The study by Gregson *et al.* (1998) is supported by another similar study conducted by Abdool-Karim (2001) in KwaZulu-Natal using a KABP cross-sectional survey.

This study comprised a sample size of 327 women aged between 15 to 44 years and involved two sites of Nkalungwane and KwaXimba in South Africa.

The study revealed that in spite of the high levels of knowledge of HIV among women, the knowledge did not influence their adoption of safer sex practices. Further, the study found that 50% of the women did not believe that they had the right to such safer sex practices such as refusing to have sex or insisting on condom usage. In addition about 50% of the women in the peri-urban settlement (Nkalungwane) and slightly more than 50% from the rural community (KwaXimba) believed that men had the right to multiple partners.

In Zambia, the only studies that had been done on HIV/AIDS are Zambia Sexual Surveys of 1998, 2000 and 2003, reinforced by the Zambia Demographic and Health Survey of 1996 and 2003. Using the KABP questionnaire and UNAIDS indicators, the Zambia Sexual Survey of 2003 captured a sample size of 5214 of which 2680 were females. The results from the survey indicated that 97.5% of the women had good knowledge about

HIV/AIDS, 49% felt it was acceptable for married women to buy condoms and 53% believed that a woman could protect herself from being infected with an STI by refusing sexual intercourse with the infected husband and only 14% felt they were at great risk of contracting HIV.

The existing literature on increased vulnerability of women to HIV infection is based mainly on studies done in South Africa, America and Europe. The danger of extrapolating the results from these studies to Zambia is that the socioeconomic and socio-cultural factors of these countries differ from the Zambian situation. This study will therefore provide details of the factors that make women more vulnerable to HIV risk behaviours in Livingstone, Zambia.



CHAPTER THREE

METHODOLOGY

3. INTRODUCTION

This chapter will outline the aim and objectives of the study as well as the research question. The theoretical framework that informed the study will be discussed. Further, the research setting, study design, sampling method, data collection, data analysis, inclusion criteria, validity, reliability, generalisability, ethical considerations, and limitations of the study will be discussed.

3.1 Aim of the study

The aim of the study is to assess the factors associated with HIV risk behaviours amongst women in Livingstone, Southern Province, Zambia.

3.2 Objectives of the study

The objectives of the study are to:

1. Identify knowledge, beliefs and attitudes of the women in Livingstone about the risk factors for HIV/AIDS.
2. Investigate high and low HIV risk sexual behaviours of the women in Livingstone.
3. Investigate the extent to which age, marital status, education, employment and location of residence (peri-urban versus urban) are associated with HIV risk sexual behaviours in women in Livingstone.
4. Make recommendations to the National AIDS Council of Zambia so that specific interventions that target women who engage in HIV risk behaviours could be developed.

3.3 Research question

What are the factors associated with HIV risk behaviours amongst women in Livingstone, Southern Province of Zambia?

3.4 Theoretical framework

Various theories have previously been used to assess and explain behaviours that could possibly lead to HIV/AIDS transmission and spread in populations. The theory of cognitive behaviour (Glanz, 1998) as well as the theory of Community Influence and Power (Glanz, 1998) informs this research. Two key concepts emerge from the theory of cognitive behaviour:

Behaviour is considered to be mediated through cognitions, that is, what we know and think affects how we act.

Knowledge is necessary but not sufficient to produce behaviour change. Perceptions, motivation, skill and factors in the social environment also play important roles (Glanz, 1998).

The theory of community influence and power is founded on the premise that communities are repositories of cultural norms, beliefs and values related to sexuality, health and illness (Glanz, 1998). It is acknowledged that most of the interventions in HIV/AIDS rest on the assumption that the determinants of the behaviour change include knowledge, beliefs and attitudes which, in turn, are influenced by environmental factors. Therefore, to effect pervasive and long-lasting shifts in behaviour, action is needed to change the political, legal, social, economic and the environmental context in which such behaviour changes take place (De Zoysa *et al.*, 1996). The two theories were used to complement each other as knowledge (cognitive behaviour theory) alone is no guarantee

that the appropriate preventive actions will be taken while the theory of community power and influence recognises the importance of cultural norms such as sexual cleansing and other beliefs and values that relate to sexuality in the community.

3.5 Research setting

Livingstone is named after one of the greatest explorers of the time, Dr. David Livingstone. This tourist town comprises a population estimated at 158,149 with an annual population growth rate of 6.6% (CSO, 2002). The Central Statistic Office (2000) report indicated the total population was 158,149, with 78,715(49.8%) males and 79,433(50.2%) females. In addition, 42,674(53.7%) females are in the age group 15 to 49 years (CSO, 2000). The town is located in the Southern Province, one of the nine provinces of the Republic of Zambia. Livingstone covers an area of 1427Sq km of which 282Sq km is urban and has borders with Zimbabwe, Namibia and Botswana. The town also serves as a transit point for truckers ferrying goods and services mostly from South Africa to countries like the Democratic Republic of Congo, Malawi, Burundi and Rwanda.

3.5.1. Description of the study sites

The study was carried out in two sites in Livingstone which were selected on the basis of differences in socio-economic status

- Nottie Broadie

Nottie Broadie is an urban area located almost in the centre of Livingstone City. Being a low-density area with a total population of 7,261, the town comprises 3,587 females and 3,674 males with 968(27%) females being in the 15 to 49 years age group (CSO, 2000).

The houses in Nottie Broadie are well spaced and have electricity and tapped water.

Flush toilets are located inside the houses.

- Maramba

Maramba is a peri-urban and high-density township, situated about ten kilometres away from the city centre of Livingstone. Maramba has a total population of 8,883 of which 4,504(50.7%) are females (CSO, 2000). In addition, 1,216 (27%) females are 15 to 49 years old (CSO, 2000). The houses are not well spaced, and some of the houses have flush toilets outside the houses while others have latrines. Most of the houses have electricity and tapped water. There are two open markets where assorted goods are being sold as well as a number of drinking places within Maramba. Some of the traders from far-flung areas spend nights at the markets to clear off their merchandise, thus increasing chances of social interactions.

3.6 Study design

A cross-sectional analytical survey was conducted in urban and peri-urban communities. Nottie Broadie represented the urban community while Maramba represented the peri-urban community. In a cross-sectional study, a sample of the study population is investigated and information is collected on the risk factors and disease at a point in time (Katzenellenbogen *et al.*, 1999). Current or past information may be collected. A cross-sectional study involving measurement of several exposures is a convenient step in investigating associations between risk factors and outcomes (Beaglehole & Bonita, 1993). Further, Beaglehole and Bonita (1993) stated that cross-sectional studies are useful for investigating exposures that are fixed characteristics of individuals and thus could be helpful in assessing the health needs of populations.

A structured questionnaire used by Professor Q Abdool Karim in KwaZulu- Natal, South Africa (Abdool-Karim, 2001) was modified by the researcher and used to elicit responses. A pilot study was conducted involving a sample size of 70 women aged between 15 to 49 years and the study results were critically analysed. As a result the expected responses to question number 5 in Section C had the word “none” added to it.

3.7 Sampling method

Women aged between 15 to 49 years were randomly selected by means of a 10% systematic sample of households in the selected sites of Nottie Broadie and Maramba. The first household was randomly selected in each site and thereafter, every tenth household was visited in each site. In case there was no woman found at tenth household, another tenth household was selected. In each household, there was a household sampling and only one eligible woman was interviewed and randomly chosen from the women at home at the time of the visit. This was done by having a number of pieces of paper which were equivalent to the number of women found in the household. Only one paper was marked yes and the woman who picked the paper marked “YES” was selected for the interview. No woman refused to be interviewed after being randomly selected and all answered the structured questionnaire by trained female assistants.

A total of 130 women were targeted for interview (sample estimate is within 5% of the population value) (Katzenellenbogen *et al.*, 1999) with 65 being targeted for each site. The sample size was calculated, using the population survey function of StatCalc. A sample of 130 was required to achieve an 80% confidence level given a 30% estimate of risky behaviour (worst estimate 35%).

The women who agreed to participate were required to sign a consent form.

The interviews were conducted on weekends to reduce selection bias occurring as women who were at home during the week were likely to be unemployed.

3.8 Data collection

A structured, pre-tested questionnaire was used to capture information. The questionnaire included questions on the demographic characteristics of the respondents, their sexual relationships, knowledge of HIV/AIDS, perception of risk, knowledge and skill in negotiating safer sex practices and their perception of rights to safer sex practices and use of condoms.

Two assistants were trained to administer the structured questionnaire to ensure consistency and standardisation. Group discussions were held with the assistants each day after the interviews to cross-check the data collected.

3.9.0 Data analysis

The generated data were arranged in four categories and analysed using EPI INFO. The following were the four main categories, demographic and socioeconomic, sexual behaviour, knowledge and attitudes; and sexually transmitted infections.

3.9.1

In the first stage of analysis, key aspects of the socioeconomic status of the women and their knowledge, attitudes, behaviours related to HIV risk were described for each of the sites. Compound indicators (described fully in Appendix 3) which are promoted by UNAIDS were also described (UNAIDS, 2000).

3.9.2

In the second stage of analysis, high-risk behaviours were compared between women over 20 years and under 20 years; married versus unmarried, urban versus peri-urban.

Two categories were used to compare and analyse HIV risk behaviours as follows:

- **Low risk-** Women who abstain from sexual activity, engage in protected sex, have good knowledge of HIV/AIDS, have one sexual partner, have had no other sexual partners in the past 12 months, are not involved in commercial sex, are not involved in alcohol/substance abuse will be considered low risk (Alves *et al.*, 2003; Weber *et al.*, 2001; UNAIDS, 2000).
- **High risk-** Women who engage in unprotected sex, have poor knowledge of HIV/AIDS, have sexual partners who had/have more than three other sexual partners in the past 12 months, are involved in commercial sex, are involved in some alcohol/substance abuse will be considered high risk (Alves *et al.*, 2003; Weber *et al.*, 2001; UNAIDS, 2000).

The Chi-squared test and the Prevalence ratio were used to analyse data from the following subgroups:

- Women under 20 years of age(adolescents) versus women over 20 years of age(adults).The UNAIDS/ WHO, 1999 report indicated that 20% of the world's population were adolescents aged 10 to 19 years and that four-fifths were in developing countries. Mensch *et al.* (1998) argued that adolescents in many societies are highly exploratory in that they enter a world of new social relationships and are challenged with reconciling cultural and familial norms of behaviour with emerging sexual feelings and desires.

- Unmarried women versus married women.
- Women from the urban community versus women from the peri-urban community.

3.10 Inclusion criteria

All women aged between 15 to 49 years living in the community to be surveyed were eligible to participate.

3.11 Validity

The random selection using a 10% systematic sample of households helped to minimise the threats to validity such as selection bias and women being interviewed over the weekend to ensure that working women were not excluded from the study. However, some recall bias could have been introduced as some women could not remember whether their last sexual encounter was unprotected or not and how many times they might have been drunk in the last three months. In addition, some might have been embarrassed to admit to HIV risk behaviours to unfamiliar persons who were administering the questionnaire. To minimise this bias, the assistants were trained in ensuring that participants were made to feel comfortable, that they were interviewed in a private setting and that the tone of the interview was non-judgmental to optimize disclosure. The possibility of instrument bias was reduced as the questionnaire was a structured and pre-tested instrument and assistants were trained in its administration before the commencement of the study to ensure standardisation and avoid misclassification.

3.12 Reliability

To maximize on reliability, questions followed a fixed order; interviewers were not allowed to expand on certain points.

The interview was timed to ensure that it took place when the respondents were not very busy on weekends. A pilot study was conducted with a sample size of 70 women two weeks prior to the research to reduce effects of history and maturation. Thirty-five (35) respondents were in the urban site while another 35 were from the peri-urban site.

3.13 Generalisability

The prevalence of HIV risk behaviours in women in Livingstone District may not be generalisable to other towns that are not on railroad lines and are not tourist spots.

3.14 Ethical statement

All the respondents were required to sign an informed consent form (Appendix 1) to ensure that they participated willingly in the study and even after signing such a form they were advised that they had a right to withdraw from participating in the study should they wish. The two assistants identified to administer the questionnaire were qualified Zambian enrolled nurses and one of them was a trained psychosocial counsellor.

The two assistants were further trained to identify stress caused by the interview process and were required to refer such cases to a trained senior psychosocial counsellor assigned to provide counselling services to any woman who might need such services due the sensitivity of the issues in the questionnaire. Permission was sought and granted by the Ethics Committee of the University of the Western Cape and University of Zambia for the study to be carried out.

3.15 Limitations of the study

The aim and objectives of the study were attained by means of a cross-sectional survey, though a more detailed, longitudinal survey, supported with qualitative study would be more ideal. Katzenellenbogen *et al.* (1999) have argued that KABP surveys are too rigid,

that they lack validity/reliability and that they provide simplistic answers to complex questions about the determinants of behaviour. Further, knowledge, attitudes and beliefs are said to be poor predictors of behaviour and KABP surveys may ignore the social and material context in which behaviour occurs (Katzenellenbogen *et al.*, 1999).



CHAPTER FOUR

RESULTS OF THE STUDY

4. INTRODUCTION

The results of the study to assess the factors associated HIV risk behaviours in women in Livingstone, Zambia are presented.

A total of 130 women responded to the questionnaire in both the urban and the peri-urban communities. Sixty-five (65) respondents were from the urban site and 65 from the peri-urban community. None of the women selected randomly refused to participate in the study. There was no woman who showed symptoms of need of counselling services after going through the questionnaire. Comparing the demographic characteristics of the urban and the peri-urban sites (Nottie Broadie and Maramba), data indicate marked differences in respondents' age distribution, marital status, level of education, employment status and income levels (Table 1).

4.1 Age, marital status, education, employment status and income level in urban and peri-urban women

TABLE 1

URBAN (n=65)			PERI-URBAN (n=65)		P- VALUE
Category	Number of respondents	% of population	Number of respondents	% of population	
Age Group					
15-19	5	7.7%	14	21.5%	0.025
20-24	15	23.1%	14	21.5%	0.833
25-29	16	24.6%	9	13.9%	0.119
30-34	8	12.3%	9	13.9%	0.794
35-39	14	21.5%	6	9.2%	0.051
40-44	2	3.1%	6	9.2%	0.144
45-49	5	7.7%	7	10.8%	0.544
Total	65	100	65	100	
Marital Status					
Single	21	32.3%	24	36.9%	0.580
Married	40	61.5%	28	43.1%	0.035
Divorced	2	3.1%	8	12.3%	0.048
Widowed	2	3.1%	5	7.7%	0.243
Total	65	100	65	100	
Educational Level					
No schooling	0	0	3	4.6%	0.079
Primary	6	9.2%	19	29.2%	0.003
Secondary	31	47.7%	36	55.4%	0.380
Post secondary	17	26.2%	6	9.2%	0.011
Tertiary	11	16.9	1	1.6%	0.002
Total	65	100	65	100	
Employment Status					
Employed	27	41.5%	10	15.4%	0.001
Unemployed	38	58.5%	55	84.6%	0.001
Total	65	100	65	100	
Income Level					
Below K250,000	16	24.6%	44	67.7%	0.004
K250,000-K500,000	12	18.5%	19	29.2%	0.424
K500,000-K1,000,000	18	27.6%	02	3.1%	0.002
K1,000,000-K1,500,000	12	18.5%	0	0	0.012
K1,500,000-K2,000,000	6	9.2%	0	0	0.315
Above K2,000,000	1	1.6%	0	0	0.154
Total	65	100	65	100	

The results indicate that the mean age for the entire study population was 29.5 years.

There were a smaller proportion of women under 20 years in the urban community than in the peri-urban community (Figure 1). Women were better educated in the urban community than in the peri-urban community, with lower proportion of women who only attained primary education (9, 2% vs. 29.2%, respectively) and had a higher proportion of women who had attained college/university education (16.6% vs. 1.6% respectively). About half of women surveyed in both communities attained secondary education. Among respondents from the urban community, 60% were unemployed compared to 84.6% in the peri-urban community (Figure 3).

Figure 1: Percentage distribution of urban and peri-urban women by age

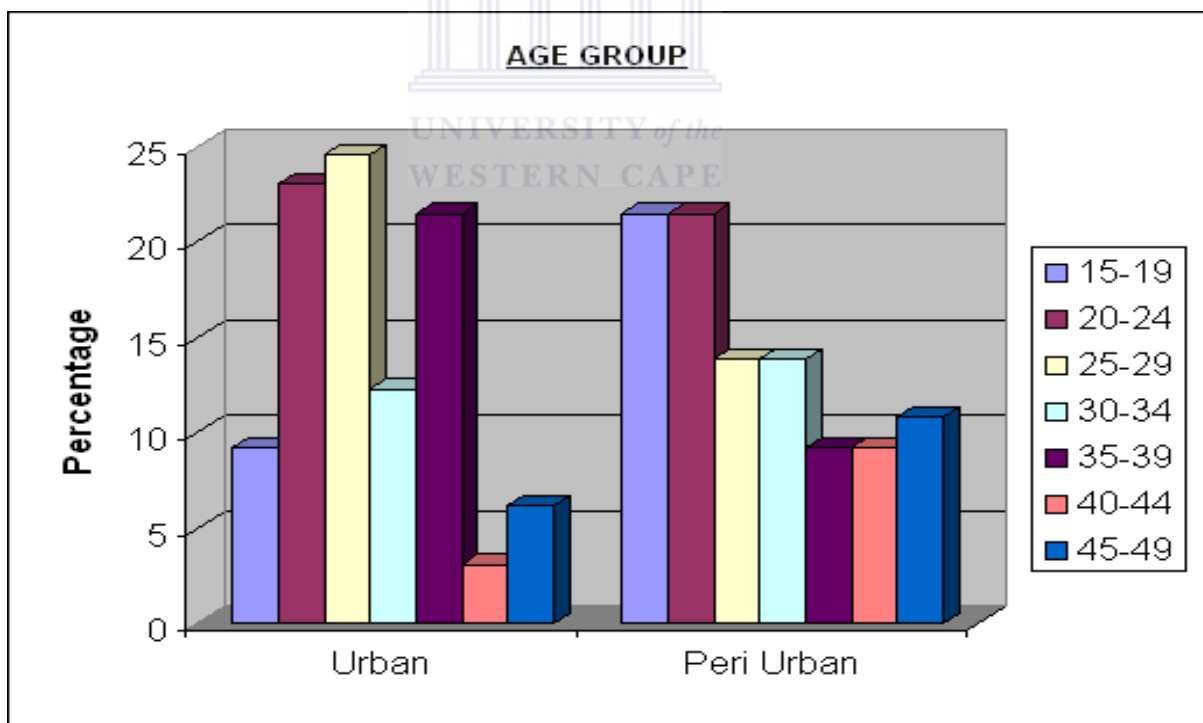


Figure 2: Percentage distribution of urban and peri-urban women by education

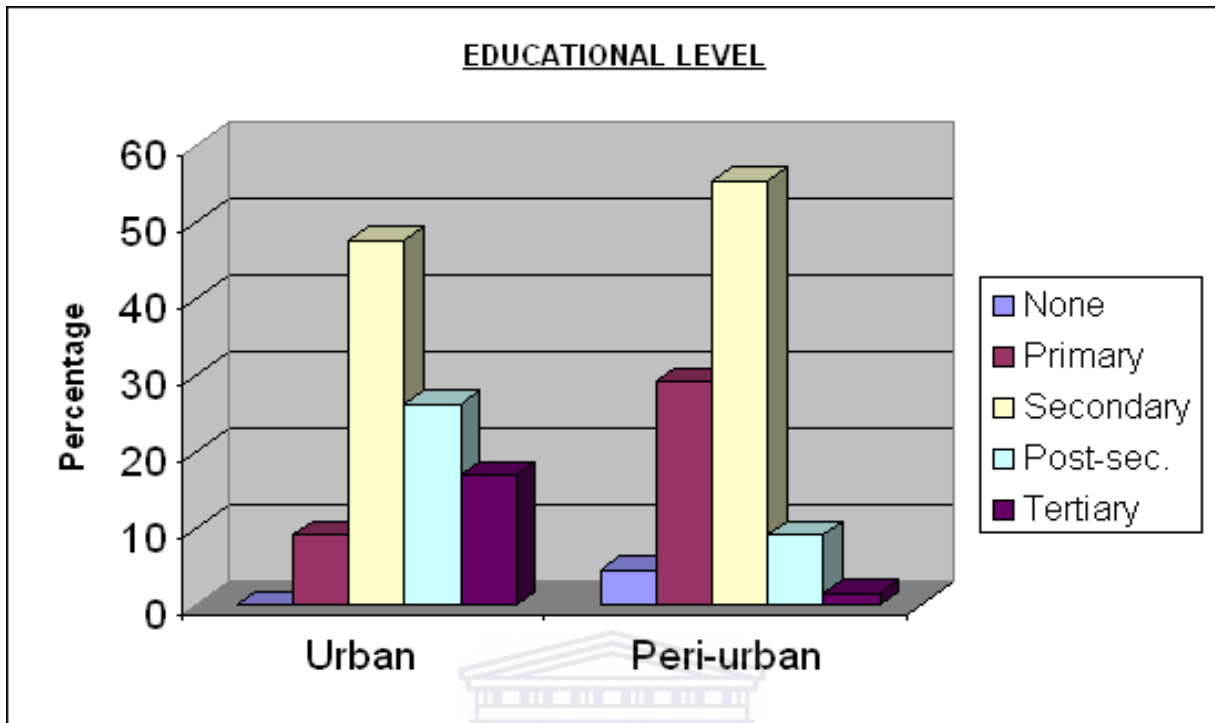


Figure 3: Percentage distribution of urban and peri-urban women by employment status

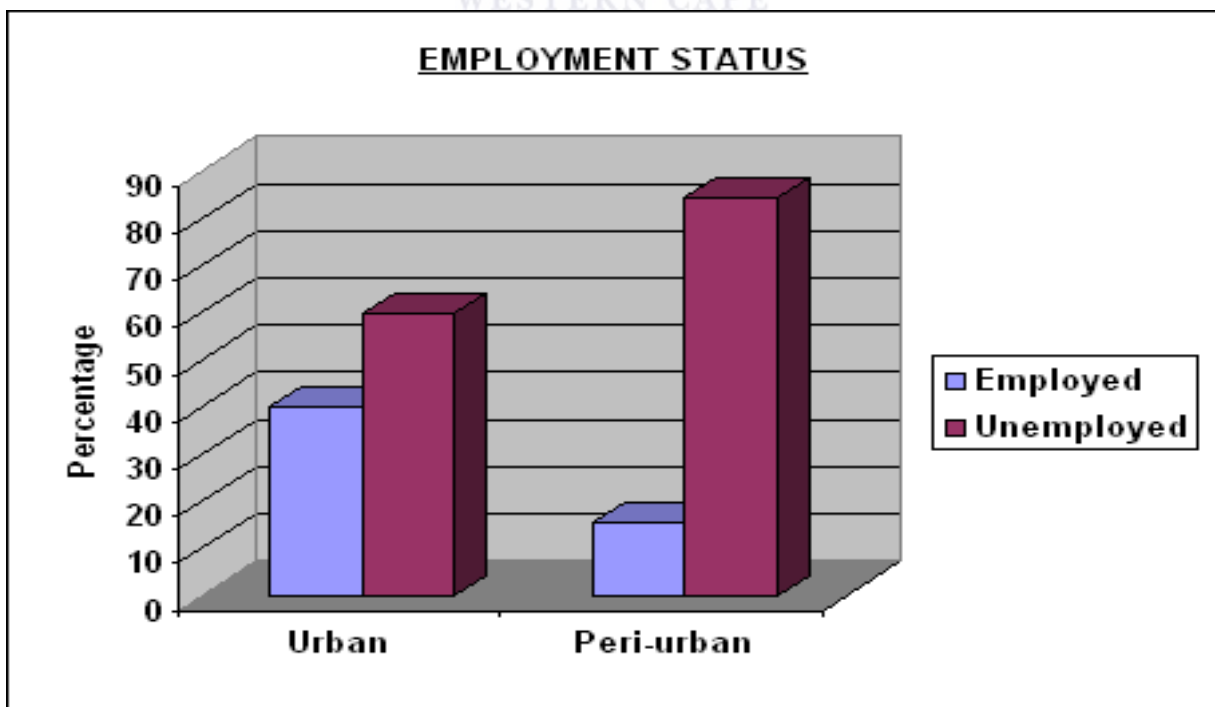
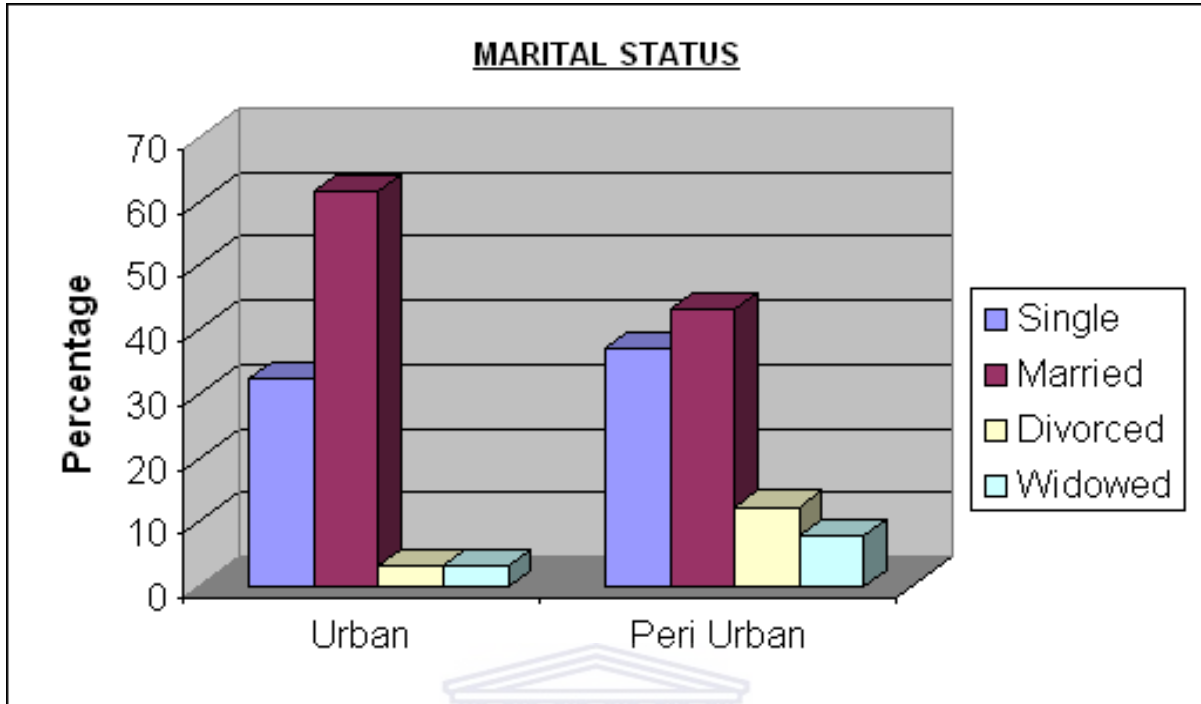
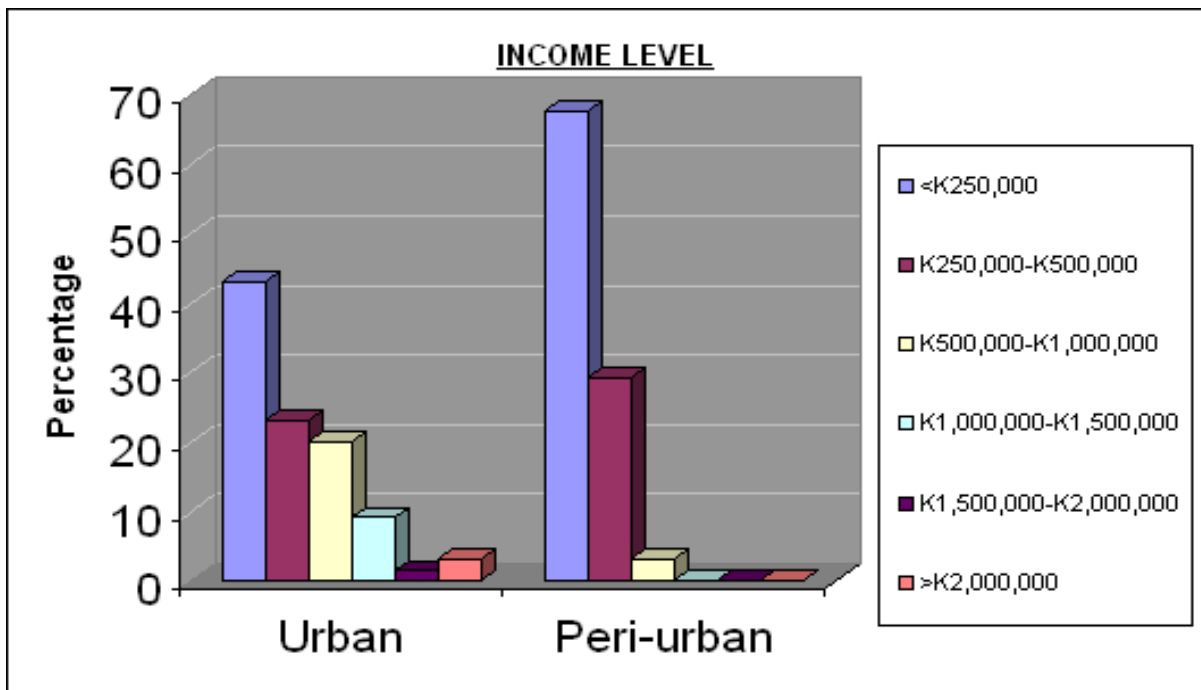


Figure 4: Percentage distribution of urban and peri-urban women by marital status



In terms of marital status (Figure 4), a larger proportion of women were married in the urban community (61.5%) than in peri-urban community (43.1%).

Figure 5: Percentage distribution of urban and peri-urban women by income level



Women in the urban community were richer than the women in the peri-urban community. In the urban community 43.1% were earning less than K250, 000=00 per month compared to 67.7% in the peri-urban community (Figure 5).

4.2 UNAIDS indicators on sexual behaviour

Tables 2 to 8 illustrate the percentage responses obtained from respondents on sexual behaviour, knowledge levels, sexual negotiation and decision making.

4.2.1 Sexual behaviour indicators

Tables 2 to 4 illustrate sexual behaviour responses. The proportion of respondents who had engaged in sexual relationships with non-marital, non-cohabiting partners in the previous 12 months was 21.5% in the urban community compared to 29.2% in the peri-urban community($p=0.313$) (Table 2).

Of those who had sex with a non-marital, non-cohabiting partner in the previous 12 months 50% said they had used a condom the last time they had sex with such a partner from the urban community compared to 26.3% from the peri-urban community (Table2).

Not one subject from the urban community under the age of 20 years who used a condom the last time they had sex with a non-marital, non-cohabiting partner while there was a 50% condom usage with those above 20 years the last time they had sex with a non-marital, non-cohabiting partner in the previous 12 months.

The median age by which half of the young women aged 15 - 20 years had penetrative sex was 17 years for the urban community and 15 years for the peri-urban community (Table 2). There was none from the urban community and 2.7% from the peri-urban community who had had sex with more than one partner in the previous 12 months among all the unmarried women surveyed. However, Table 9 shows that urban women

have higher risk behaviours than peri-urban women while Table 2 and 3 do not show any significant differences and similarly Table 9 shows that married women have higher risk than the un married women but Tables 4 and 5 do not support that view due to the low number of respondents in both tables 2, 3, 4 and 5.

Women who had ever asked a man to pay for sex were categorised as sex workers.

Among the sex workers surveyed 1(50%) from the urban community reported using a condom with her clients in the previous 12 months compared to 5 (55.5%) from the peri-urban community ($p=0.094$).

4.2.2 Knowledge indicators

The knowledge, attitudes and practice category includes respondents' general knowledge on HIV/AIDS, knowledge on the mode of transmission of HIV, misconceptions about HIV transmission, knowledge on and means of protection from HIV, perceived risk of HIV infection, sexual negotiation, and attitudes towards the purchase and usage of condoms.

Table 3 illustrates the knowledge indicators of the respondents who said that a person can reduce the risk of contracting HIV by using condoms and by having sex only with one faithful, uninfected partner. In addition, Table 3 also illustrates the knowledge indicators of respondents who reject the two local misconceptions of HIV transmission (mosquito and casual contact) and know that a healthy-looking person could be infected with HIV. Forty-seven (72.3%) respondents from the urban community and 63.1% from the peri-urban community said a person can reduce the risk of contracting HIV by using condoms and by having sex with only one faithful, uninfected partner($p=0.260$).

Among those who answered correctly in the urban community, 90 % were married while

40% were below the age of 20 years. In the peri-urban community, 53.6% were married and 64.3% were below the age of 20 years.

In the urban community 76.9% rejected the two local misconceptions of HIV transmission (mosquito and casual contact) and knew that a healthy-looking person could be infected with HIV compared to 64.5 % in the peri-urban community ($p=0.122$).

Among those who rejected the misconceptions 75% from the urban community were married and 80% were below 20 years. From the peri-urban community, 78.6% were married and 35.7% were under 20 years of age.

4.2.3 Stigma and discrimination indicator

Table 3 illustrates the respondents who expressed accepting attitudes towards people with HIV. Both the urban and the peri-urban community recorded 95.4% of the respondents expressing accepting attitudes towards people with HIV ($p=1.00$).

4.2.4 Sexual negotiation indicator

Table 3 illustrates the percentage of respondents who have heard of STIs and who believed that if a woman's husband has an STI, she could negotiate safer sex with him by either refusing to have sex or insisting on condom use. This study recorded 61(98.4%) in the urban and 56 (86.2%) in the peri- urban community ($p=0.143$).

TABLE 2: Sexual Behaviour Indicators in urban and peri-urban communities

S/N	INDICATOR	URBAN	PERI-URBAN	P-VALUE
1.	Sexual behaviour indicator 1: The percentage of respondents who had sex with non-marital partner of those reporting sexual activity in the previous 12 months.	14 (21.5%)	19(29.2%)	0.313
2.	Sexual Behaviour Indicator 2: The percentage of respondents who say they had used a condom the last time they had sex with a non-marital partner, of those who had sex with such a partner in the previous 12 months.	7 (50%)	5(26.3%)	0.344
3.	Sexual behaviour indicator 3: The age by which a half of young women aged 15 – 20 years have had penetrative sex (median age) of all young women surveyed.	17 years	15 years	0.683
4	Sexual behaviour indicator 4: The percentage of unmarried women aged 15 –20 years who had sex in the last six months, among all young unmarried women surveyed.	2(40%)	6(42.8%)	0.144
5.	Sexual behaviour indicator 5: The percentage of young unmarried women aged 15 – 20 years who had sex with more than one partner in the previous 12 months among all unmarried women surveyed	0	1(7.7%)	0.315
6.	Sexual behaviour indicator 6: The percentage of sex workers who reported using a condom with their clients of all the sex workers surveyed who had sex with clients in the previous 12 months.	1(50%)	5(55.5%)	0.094

TABLE 3: Knowledge Stigma& Discrimination and Sexual negotiation indicators in Urban and Peri-urban area

S/N	INDICATOR	URBAN	PERI-URBAN	P-VALUE
1.	Knowledge indicator 1: Percentage of respondents who, in response to prompted questions, say that a person can reduce the risk of contracting HIV by using condoms or having sex only with one faithful, uninfected partner	47 (72.3%)	41 (63.1%)	0.260
2.	Knowledge indicator 2: Percentage of respondents who reject the two local misconceptions of HIV transmission (mosquito and casual contact) and who know that a healthy looking person can be infected with HIV.	50 (76.9%)	42(64.5%)	0.122
3.	Stigma and Discrimination indicator 1: Percentage of respondents expressing accepting attitudes towards people with HIV.	62 (95.4%)	62 (95.4)	1.00
4	Sexual Negotiation Indicator 1: The percentage of all respondents who have heard of STIs and who believe that if a woman's husband has an STI, she could negotiate safer sex with him by either refusing to have sex or insisting on condom use.	61 (98.4%)	56 (86.2%)	0.143

URBAN AREA

TABLE 4: Sexual Behaviour Indicators in married and not married respondents in the urban community

S/N	INDICATOR	MARRIED	NOT MARRIED	P-VALUE
1.	Sexual behaviour indicator 1: The percentage of respondents who had sex with non-marital partner of those reporting sexual activity in the previous 12 months.	1(2.5%)	13(52%)	0.000
2.	Sexual Behaviour Indicator 2: The percentage of respondents who say they had used a condom the last time they had sex with a non-marital partner, of those who had sex with such a partner in the previous 12	1 (100%)	6 (46.2%)	0.599
3.	Knowledge indicator 1: Percentage of respondents who, in response to prompted questions, say that a person can reduce the risk of contracting HIV by using condoms or having sex only with one faithful, uninfected partner	36 (90%)	11 (44%)	0.000
4.	Knowledge indicator 2: Percentage of respondents who reject the two local misconceptions of HIV transmission (mosquito and casual contact) and who know that a healthy looking person can be infected with HIV.	30 (75%)	20 (80%)	0.641
5.	Sexual Negotiation Indicator 1: The percentage of all respondents who have heard of STIs and who believe that if a woman's husband has an STI, she could negotiate safer sex with him by either refusing to have sex or insisting on condom use.	39 (97.5%)	22 (88%)	0.121

PERI-URBAN

TABLE 5: Sexual Behaviour Indicators in married and not married respondents in the peri-urban community

S/N	INDICATOR	MARRIED	NOT MARRIED	P-VALUE
1.	Sexual behaviour indicator 1: The percentage of respondents who had sex with non-marital partner of those reporting sexual activity in the previous 12 months.	3 (10.7%)	19 (51.4%)	0.001
2.	Sexual Behaviour Indicator 2: The percentage of respondents who say they had used a condom the last time they had sex with a non-marital partner, of those who had sex with such a partner in the previous 12	1(33.3%)	4(21.1%)	0.717
3.	Knowledge indicator 1: Percentage of respondents who, in response to prompted questions, say that a person can reduce the risk of contracting HIV by using condoms or having sex only with one faithful, uninfected partner	15(53.6%)	26(70.3%)	0.167
4.	Knowledge indicator 2: Percentage of respondents who reject the two local misconceptions of HIV transmission (mosquito and casual contact) and who know that a healthy looking person can be infected with HIV.	22(78.6%)	20(54.1%)	0.040
5.	Sexual Negotiation Indicator 1: The percentage of all respondents who have heard of STIs and who believe that if a woman's husband has an STI, she could negotiate safer sex with him by either refusing to have sex or insisting on condom use.	25(89.3%)	31(83.8%)	0.524

URBAN AREA

TABLE 6: Sexual Behaviour Indicators in under 20 yrs and above 20yrs respondents in the urban community

S/N	INDICATOR	UNDER 20 YRS	ABOVE 20 YRS	P-VALUE
1.	Sexual behaviour indicator 1: The percentage of respondents who had sex with non-marital partner of those reporting sexual activity in the previous 12 months.	2 (40%)	12(20%)	0.295
2.	Sexual Behaviour Indicator 2: The percentage of respondents who say they had used a condom the last time they had sex with a non-marital partner, of those who had sex with such a partner in the previous 12 months	0	7(58.3%)	0.293
3.	Knowledge indicator 1: Percentage of respondents who, in response to prompted questions, say that a person can reduce the risk of contracting HIV by using condoms or having sex only with one faithful, uninfected partner	2(40%)	45(75%)	0.928
4.	Knowledge indicator 2: Percentage of respondents who reject the two local misconceptions of HIV transmission (mosquito and casual contact) and who know that a healthy looking person can be infected with HIV.	4(80%)	46(76.7%)	0.261
5.	Sexual Negotiation Indicator 1: The percentage of all respondents who have heard of STIs and who believe that if a woman's husband has an STI, she could negotiate safer sex with him by either refusing to have sex or insisting on condom use.	5 (100%)	57(95%)	0.608

PERI-URBAN

TABLE 7: Sexual Behaviour Indicators in under 20 yrs and above 20 yrs respondents in the peri-urban community

S/N	INDICATOR	UNDER 20YRS.	ABOVE 20 YRS.	P-VALUE
1.	Sexual behaviour indicator 1: The percentage of respondents who had sex with non-marital partner of those reporting sexual activity in the previous 12 months.	6 (42.9%)	13(25.5%)	0.206
2.	Sexual Behaviour Indicator 2: The percentage of respondents who say they had used a condom the last time they had sex with a non-marital, partner, of those who had sex with such a partner in the previous 12 months	0	5(38.5%)	0.146
3.	Knowledge indicator 1: Percentage of respondents who, in response to prompted questions, say that a person can reduce the risk of contracting HIV by using condoms or having sex only with one faithful, uninfected partner	9(64.3%)	32(62.7%)	0.916
4.	Knowledge indicator 2: Percentage of respondents who reject the two local misconceptions of HIV transmission (mosquito and casual contact) and who know that a healthy looking person can be infected with HIV.	5 (35.7%)	37 (72.5%)	0.11
5.	Sexual Negotiation Indicator 1: The percentage of all respondents who have heard of STIs and who believe that if a woman's husband has an STI, she could negotiate safer sex with him by either refusing to have sex or insisting on condom use.	11(78.6%)	51(100%)	0.001

4.3 Sexual decision making

Table 8 illustrates the respondents' responses on sexual decision making. Ninety-four percent (94%) from the urban community said it was justified for a wife to refuse to have sexual intercourse with a husband who she knows has an STI compared to 90% of respondents from the peri-urban community.

Further, 77% of the subjects from the urban community said a wife was justified to refuse sexual intercourse with a husband who she knows had had sex with other women compared to 69% of the respondents from the peri-urban community.

Eighty-six percent (86%) of the respondents from the urban community said a husband had no right to get angry and reprimand the wife if the wife refuses to have sex with him when he wants to compared to 48% from the peri-urban community.

Ninety-eight percent (98%) of the respondents from the urban community said a husband had no right to use force and have sex with her if the wife has refused to have sex with him in comparison to the 87% from the peri-urban community.

TABLE 8: Sexual decision making & attitudes

CATEGORY OF VARIABLE	Number of respondents by the urban community			Number of respondents by the peri-urban community		
	YES	NO	Don't know	YES	NO	Don't know
Decision making & attitudes						
1. Is a wife justified to refuse to have sex with her husband when:						
a) She knows her husband has a sexually transmitted disease	(61) 94%	(3) 5%	(1) 1%	(56)90%	(4) 7%	(2) 3%
b) She knows her husband has sex with other women	(50) 77%	(13) 20%	(2) 3%	(43)69%	(15)24%	(4)7%
c) She has recently given birth	(60) 92%	(1) 2%	(3) 6%	(54)87%	(0)	(8) 13%
d) She is tired or not in the mood	(54) 83%	(9) 14%	(2) 3%	(41)66%	(13)21%	(8) 13%
2. Do you think that if a woman refuses to have sex with her husband when he wants to, he has the right to:						
a) Get angry and reprimand her	(8) 12%	(56) 86%	(1) 2%	(28)44%	(30)48%	(5) 8%
b) Refuse to give her money or means of financial support	(2) 3%	(63) 97%	-	(2)3%	(61)97%	(0)
c) Use force and have sex with her	(1) 2%	(64) 98%	-	(7) 11%	55(87%)	(1) 2%
d) Go and have sex with other women instead	(1) 2%	(64) 98%	-	(7) 11%	54(86%)	(2) 3%

4.4 Analysis of factors associated with high-risk behaviours

To determine whether there was any association between the women's health knowledge, beliefs and attitudes and the distribution of HIV/AIDS among the urban and peri-urban communities, the scores were analysed on the factors associated with HIV risk behaviours amongst the women in Livingstone by age, marital status, residence, income levels, education levels and employment status. The results are illustrated in Table 9.

Marital status was found to be associated with high-risk behaviours among the women in Livingstone ($P= 0.046$). Married women (65.1%) were more likely to report high-risk behaviours than the unmarried (34.9%).

Accordingly, residence was associated with high-risk behaviours among the women ($P= 0.034$). Women in urban areas (62.8%) were more likely to report high-risk behaviours than women in peri-urban areas (37.2%). Age was not associated with high-risk behaviours ($P= 0.219$). Similarly increasing education levels was not associated with high risk behaviours among the women in Livingstone ($P=0.723$). However, those that had attained secondary school education were at higher risk (55.8%) than those who only had primary education (20.9%) and those who had post-secondary education (23.3%). Income levels were also not associated with high-risk behaviours among the women ($P= 0.631$).

TABLE 9

SOCIODEMOGRAPHIC FACTORS ASSOCIATED WITH HIV RISK BEHAVIOURS

	High risk Total = 43		Low risk Total = 86		p value
	N	(%)	N	(%)	
Age					
<20	4	(9.3)	15	(17.4)	0.219
20+	39	(90.7)	71	(82.6)	
Marital status					
Married	28	(65.1)	40	(46.5)	0.046
Not married	15	(34.9)	46	(53.5)	
Education					
Up to primary	9	(20.9)	19	(22.1)	0.723
Secondary	24	(55.8)	42	(48.8)	
Post-secondary	10	(23.3)	25	(29.1)	
Residence					
Urban	27	(62.8)	37	(43)	0.034
Peri-urban	16	(37.2)	49	(56.9)	
Income					
< K500, 000=00	34	(79.1)	71	(82.6)	0.631
> K500, 000=00	9	(20.9)	15	(29.1)	
Age at first pregnancy					
<20	17	(45.9)	36	(60)	0.176
20+	20	(54.1)	24	(40)	
Employment					
Employed	10	(23.3)	26	(30.2)	0.404
Unemployed	33	(76.7)	60	(69.8)	

CHAPTER FIVE

DISCUSSION

5. INTRODUCTION

This chapter discusses the results of the study that was conducted to assess the factors that are associated with behaviours that place women at high risk to get infected with HIV in Livingstone, Zambia.

When HIV/AIDS first emerged in the mid 1980s, it was concentrated in particular population groups especially the homosexual community. Since the early 1990s, HIV has become a serious epidemic affecting the heterosexual population especially those that are marginalized. Women have become increasingly vulnerable to HIV/AIDS and therefore there is an urgent need to understand the social, cultural, economic and political factors that have been shaping the landscape of the HIV epidemic (Parker, 1996). A number of studies have been done that have linked social, cultural, economic and political factors to increased women's vulnerability to HIV/AIDS (Williams *et al.*, 2003; De Guzman, 2001, Kalipeni, 2000).

The results of this particular study showed that being married ($p=0.046$) and urban residence ($p=0.034$) were associated with high-risk behaviour among the women in Livingstone, Zambia. Similar studies by Williams *et al.* (2003), Gregson *et al.* (2004), Zambia Behaviour Sexual Survey (2003), Chao *et al.* (1994) and Orubuloye *et al.* (1993) have supported these findings.

Orubuloye *et al.* (1993) in a qualitative study to explore women's ability to control marital sexual relations when their husbands are infected with STIs or HIV, in Nigeria, found that women were at high risk of contracting STIs or HIV due to lack of decision-making powers in matters concerning sex. They are scared of the risk of being threatened with divorce should they refuse to have sex with a husband or partner, even if the person has an STI. Chao *et al.* (1994) in a study in a rural area around Butare in Rwanda documented that there was significant risk in stable sexual relationships. The study found 9.3% sero-prevalence among expectant mothers out of sample size of 5690. Chao *et al.* (1994) documented that sero-prevalence was related to the number of sexual partners. The main interpretation given was that there was a widespread belief that having unprotected sex carried less risk in marriage and that communication was compromised by prevailing norms about partner and gender relations (Chao *et al.*, 1994). The result of this study can be explained in terms of studies by Chin, 1999, Gregson *et al.* (1998, 2000, 2004), Chatterjee (1999) and Abdool-Karim (2001) which have shown that married women were more likely to be infected by their spouses as a high proportion of them would not use condoms during sexual intercourse despite the fact that their spouses might be engaged in sexual relations with other partners. Reasons that were advanced were that condoms would interfere with the child-bearing process and are also considered to lack spontaneity associated with most sexual relations (Bassett *et al.*, 1991).

Furthermore, marital relationships are based on trust and the use of condoms in such partnership undermines the fundamental basis for such a relationship (Abdool- Karim, 2001).

The Zambia Sexual Behaviour Survey(2003) in the KABP study designed to collect and provide information on the Zambian population regarding knowledge, attitudes and sexual behaviour related to HIV, found that women in urban residence (2%) were more likely to engage in risky behaviour such as having unprotected extra marital sex than women from the peri- urban area (1.5%). Failure to use condoms in extramarital relations put women at high risk of HIV infection and poses great challenges in the efforts to prevent HIV infection.

Furthermore, Gregson *et al.* (1998), in a household survey in Manicaland, Zimbabwe using a KABP questionnaire which involved a sample size of 1294 people, revealed that although extramarital sexual intercourse was rare among married women, 4% of the women reported having had multiple sex partners. The study found that single, divorced and widowed women were more likely to report abstinence as a strategy to avoid infection (Gregson, 1998). The study by Gregson (1998) further indicated that 43% of the married women felt in danger of becoming infected with HIV because of their husbands' other sexual partners. Norr *et al.* (1992) in a qualitative study in Botswana suggested that the great power of men over women in relationships makes it difficult for many women to ascertain the risk behaviour their partners may engage in outside of their own relationship.

Women in urban areas were more likely to report high-risk behaviours than women in peri-urban areas. This is supported by findings from the Zambia Demographic and Health Survey (2003) and National AIDS Council (2004).

The sentinel surveys that have been carried out in Zambia (ZDHS 2003, National HIV/AIDS Council, 2004) have shown that HIV was more prevalent in urban areas than in rural communities. The National AIDS Council (2004) indicated that HIV prevalence was 23% in urban areas and 11% in rural areas.

This study showed that age was not associated with high-risk behaviour for contracting HIV ($P= 0.219$). However, those aged over 20 years were more likely to report high-risk behaviour (90.7%) than those under the age of 20 years (9.3%). One interesting trend from the studies by Kalipeni (2000) and Gregson *et al.* (2000) is that women appear to be exposed to HIV infection at an earlier age than men. The main explanation for the mismatch was that older men entice younger girls into sexual intercourse for various reasons.

Though employment status and income levels were not associated with high-risk behaviour ($p=0.971$ and $p=0.370$, respectively), the consequences of a high percentage of women being unemployed and low levels of income implies that it will be difficult for the women to sustain their lives and those of their children. Mann and Tarantola (1997) argued that women's economic and social status increase their vulnerability to contracting HIV/AIDS as they are dependent on men and this imbalance makes it difficult for them to control their risk. This view was supported by other studies such as Calderon (1997) and Morris (1997).

The present study identified further similarities with other studies that have examined and compared the patterns of knowledge, attitudes and behaviour regarding HIV/AIDS among the women. Other similar finding that has been indicated from these is that the majority of the women who were involved in the studies were relatively young.

In the present study, the mean age was 29.5 years. The study conducted by Gregson *et al.* (1998) recorded 30 years as the mean age of respondents from a sample size of 1294 women, which is slightly higher by 0.5%. A similar study by Abdool-Karim (2001) which was conducted in KwaZulu-Natal, South Africa, recorded a mean age of 25.8 years of the 219 women interviewed. This was lower by 3.7 compared to the present study. Other studies that have recorded a similar mean age (Kalipeni (2000); De Guzman (2001); Williams *et al.* 2003). This age group is sexually active (UNAIDS, 2005) and could be potentially at risk of HIV infection.

In terms of the education, the present study recorded a higher number of women who had attained secondary school education (55.4%) from the peri-urban community compared to the 47.7% from the urban community. The urban community did, however, have the highest proportion of women (16.6%) who had attained college/university education compared to the 1.6% from the peri-urban community. Further, this study revealed that the knowledge level about HIV/AIDS was higher in urban community (72.3%) than in the peri-urban community (63.1%). The Zambia Sexual Behaviour Survey (2003) also showed a higher percentage of women (90%) in urban residence with more knowledge about ways to avoid HIV infection than the women in peri-urban residence (75%). These findings are similar to the studies conducted by Abdool-Karim (2001) and Gregson *et al.* (2004).

A number of studies have also attributed women's improved knowledge on HIV to the attainment of high levels of education (Abdool-Karim, 2001; Zambia Sexual Behaviour, 2003; Gregson *et al.* 2004). The present study showed a similar trend.

The study by Gregson *et al.* (2004) showed that women with higher levels of education had better knowledge about HIV/AIDS (OR 1.85; $p=0.001$) although the high level of education was not related to perceived vulnerability to HIV infection (OR 1.14; $p=0.186$). It is, therefore, not surprising to find that in this study women in the urban community, despite them demonstrating high levels of knowledge of HIV (62.8%) were still more likely to have reported high-risk behaviour to HIV infection than those in peri-urban community (37.2%). Further, Abdool- Karim (2001) attributed the women's underestimation of their risk to HIV infection to women's belief that they did not have the right to refuse sex with their partners or insist on condom use. Recognising personal risk is important in adopting less risky behaviour (Abdool-Karim, 2001).

The present study indicated considerable variation in employment status and income dimensions among the women in urban and peri-urban communities. 84.6% of the women from the peri-urban community were unemployed, compared to the 60% in the urban community. In the peri-urban community 67.7% of the women had income levels less than K250, 000=00, which at the time of commencing the study it was equivalent to US \$50 per month while 24.6% in the urban community had an income below K250, 000=00. This limits the women's opportunity to economic independence and increases their vulnerability (Abdool-Karim, 2001; Kalipeni, 2000). In Uganda, Gyles *et al.* (2002) demonstrated in a qualitative study that poorer women were more vulnerable to HIV infection and less able to negotiate safer sex. The compound indicators promoted by UNAIDS were used to analyse key aspects of the socioeconomic status of the women and their knowledge, attitudes and risk behaviours. One of those widely discussed preventive measures has been the use of the condoms.

The present study indicated that 21.5% of the women from the urban community had had sexual relationships with non-marital, non-cohabiting partners compared to 29.2% of the women from the peri-urban community. Lower percentages from the Zambia Behaviour Survey (2003) were obtained, 21% for urban and 13% for the peri urban area. The present study also found that 50% of the women from the urban community who were involved in non-marital, non-cohabiting partners used condoms compared to 26.3% from the peri-urban community. Lower percentages from the Zambia Behaviour Survey (2003) were obtained for urban community (44%) and the rural community (25.7%). Further, 21.1% of the women from the peri-urban community who were not married who had reported engaging in sexual relationships with non-marital, non-cohabiting partners said they had used condoms compared to 33.3% from the urban community. The Zambia Behaviour Sexual Survey (2003) recorded 46.6% for the urban community and 22.7% in the peri-urban community as having had used condoms, the urban community percentage is a much higher compared to the present study. Of the married women who had engaged in sexual relationship with non-marital, non-cohabiting partners, a 100% from the urban community said they had used condoms as compared to 46.2% from the peri-urban community. The Zambia Behaviour Survey (2003) again had lower percentages indicating 1% for the urban and none for the peri-urban community. These findings are supported by studies conducted by De Zoysa *et al.* (1996) and Gyles *et al.* (2002).

It is widely acknowledged that condom use considerably reduces the transmission of HIV if appropriately used and therefore condom use has been part of HIV reduction efforts since the advent of HIV (Abdool-Karim, 2001; Chin, 1999; Mac Phail & Campbell, 2001).

It is worrying if condom use is not seriously considered especially in sexual relationships with non-marital partners who might have many other sexual partners.

Of the young women surveyed the median age by which half of the young women aged 15 - 20 years who had had penetrative sex was 17 years for the urban community and 15 years for the peri-urban community. Gregson *et al.* (2004) found that young women's chances of having avoided HIV infection were positively associated with those that stated that they are not yet sexually active ($p < 0.001$). Better educated and wealthier men who have the resources are easily able to have sex with younger females and expose them to the risk of HIV infection (Kalipeni, 2000).

It is widely accepted that those that have more than one sex partner are more likely to be infected with HIV/AIDS and a number of studies have supported this view (Gregson *et al.*, 2000; Chin, 1999; Abdool- Karim, 2001; De Zoysa *et al.*, 1996). Fortunately in this study, nobody ($n=0$) from the urban community and 7.7% ($n=1$) from the peri-urban community had reported to be engaged in sexual activity with more than one partner in the previous 12 months among all the unmarried women surveyed. This was much lower than was found in a study by Gregson *et al.* (2004), who found that a significant number of rural women in Zimbabwe (45.5%) reported having one sex partner in the previous 12 months, whereas 48.1% reported having five or more in the same period from the urban community.

It is known that the majority of women, who engage in commercial sex work, mostly come from disadvantaged backgrounds (Gysels *et al.*, 2002; Abdool- Karim, 2001). In this study, 50% from the urban community of the 2 sex workers surveyed reported using a condom during sex with clients in the previous 12 months compared to 55.5% of the 9

sex workers from the peri-urban community. Although the validity of these findings is limited by the small number of the sex workers who were included in this survey, it is still worrying that only half of them used condoms. Sexual negotiation to reduce the risk of contracting HIV in women involved in commercial sex work is of critical importance and condom use is vital in such sexual activities.

The study's findings that urban residence and marital status are associated with high-risk behaviours have important implications for the prevention of HIV/AIDS in Livingstone, Zambia. More preventive efforts targeting married women and urban areas may be necessary. However, the main potential limitation of the study is that it cannot be generalized to other towns that are not in the line of rail and are not tourist towns.

Further, the KABP survey might not have taken in consideration the social and material context in which the behaviour occurred (Katznellenbogen *et al*, 1999). The questionnaire itself could not adequately cover all the factors that influence women's vulnerability especially issues concerning gender based sexual violence. The other potential limitation would be measurement bias. In the study women were sometimes asked to recall certain information on their sexual lives which possibly they could not accurately recall thus introducing some element of measurement bias. Further, selection bias was reduced by randomly selecting women who participated in the study and it was hoped that the women so selected had similar characteristics as those who were not selected.

CHAPTER SIX

CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

This study examined factors that are associated with risk behaviours that are known to increase the risk of HIV infection among women in Livingstone, Zambia. As it is widely acknowledged that economic, social, cultural and political factors shape the landscape of HIV/AIDS distribution in Africa (Kalipeni, 2000; De Guzman, 2001), better understanding of these factors will help in creating effective intervention strategies. Sub-Saharan African countries have been experiencing an increasing ratio of female HIV infection with women at the greatest risk of infection (Kalipeni, 2000).

The study found that urban residence and being married were positively associated with high-risk behaviour among the women in Livingstone.

6.2 Recommendations

The following recommendations should be considered to reduce women's vulnerability to high-risk behaviour in Livingstone, Zambia.

- The National HIV/AIDS, STI and TB Council (NAC), a body established by ACT of Parliament in 2002 to coordinate and support the development of monitoring and evaluation of the multi-sectoral response in Zambia should ensure that the country's three year HIV/AIDS Strategic Plan has objectives that adequately target married women and women in urban areas in prevention of HIV/AIDS in Livingstone. Further, NAC should encourage Non Governmental Organisations that focuses in prevention of HIV/AIDS in women to effectively coordinate HIV/AIDS prevention work in Livingstone so that all potential factors that could

influence married women and urban women's vulnerability are adequately covered.

- The government and non-governmental organisations (NGOs) that are involved in HIV/AIDS work in Livingstone should intensify HIV prevention efforts and should target women in urban areas and those that are married to help them reduce their vulnerability to HIV infection.
- There is need for increased understanding and acknowledgement of social, economic, cultural and political factors that are fuelling the HIV/AIDS epidemic especially in Livingstone through wider longitudinal research which could involve both qualitative and quantitative aspects.



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APPENDIX 1

(i) INFORMATION SHEET

My name is George M. Chigali and I am student in the Masters Degree in Public Health at the University of the Western Cape in South Africa. The study that I am undertaking seeks to investigate the factors that make women more vulnerable to HIV risky behaviour in Livingstone, Zambia. It is hoped that the study will provide new insights into barriers to the adoption of safer sex practices, which could assist in developing better strategies in combating the dreaded HIV/AIDS epidemic. The result of this may also help in findings ways and means of empowering the women.

With all the above in mind I request your consent to participate in this study by answering the questions asked in this booklet as accurately and as honestly as possible. Some of the questions are sensitive and may touch on your private life. However, all the responses to the questions shall be treated with the highest level of confidentiality and shall solely be for the purpose of the research. Kindly note that the questionnaire is anonymous and therefore your name is not required. You have the right to refuse to participate and even after giving consent, you have the right to withdraw from the study.

Please indicate whether the researcher has permission to proceed with the questions? YES----- NO-----

Respondent's signature (OR thumb print).....Date.....

CONTACT DETAILS OF RESEARCHER:

George M Chigali

19 Chimwemwe Way

Tel: 3-320764 OR CELL: 097-860346

Livingstone

Signature.....Date.....

APPENDIX 2

THE UNIVERSITY OF THE WESTERN CAPE SCHOOL OF PUBLIC HEALTH

(ii) STUDY QUESTIONNAIRE

This questionnaire seeks to investigate factors that make women more vulnerable to HIV risky behaviours in Livingstone, Zambia.

I request that you answer the questions asked in this booklet as accurately and as honestly as you possibly can. The responses to the questions shall be treated with highest level of confidentiality and shall solely be used for the purpose of this specific research.

The questionnaire is anonymous, therefore you do not have to indicate your name and all your responses will in no way be associated to you.

Your accurate and honest responses will go a long way in finding ways and means of empowering women.

The questionnaire is divided into five sections. Section A will have questions on personal characteristics of the respondents, section B will have questions on socioeconomic of the respondents, section C will have questions on marriage and sexual activities of the respondent, while section D will have questions on level of knowledge on HIV/AIDS of the respondents.

Section E will have questions on the decision making of respondents and men's attitudes towards women.

Instructions: Please circle the number corresponding to your answer or fill information requested.

SECTION A

DEMOGRAPHIC DATA OF RESPONDENTS

1. What is your current age (years old)_____

2. What is your current marital status?

Single	1
Married	2
Widowed	3
Divorced	4

3. What is your highest level of education obtained?

No schooling	1
Primary	2
Secondary	3
Post secondary	4
Tertiary	6

4. If you have children, what was your age at first pregnancy? _____

5. How many of your children are living with you? _____

SECTION B

SOCIO-ECONOMIC INFORMATION

1. What is your employment status?

Employed ...	1
Unemployed...	2

2. What is your level of income per month?

Below K250, 000=00	1
K250, 000 - K500, 000	2
K500, 000 - K1, 000, 000	3
K1, 000, 000 - K1, 500, 000	4
K1, 500, 000 - K2, 000, 000	5
Above K2, 000,000=	6

3. What kind of house do you live in?

Low cost	1
Medium cost	2
High cost	3

4. Have you ever drunk alcohol?

YES	1
NO	2

5. If yes, in the last three months, on how many occasions did you get drunk?

Number of times	_____
None	_____

6. Do you own any of the following:

Answer Yes or NO

Livestock		1 (YES)	2 (NO)
House	1	1 (YES)	2 (NO)
Undeveloped plot		1 (YES)	2 (NO)



SECTION C

MARRIAGE AND SEXUAL ACTIVITIES

1. If you currently married, are you the only woman married to this man?

1 (YES)

2 (NO)

2. How old were you when you first had sexual intercourse with a man?

Below 15 years 1

15 - 25 years 2

26 - 30 year 3

Above 30 years 4

3. When was the last time you had sexual intercourse with a man?

A few days ago 1

A few weeks ago 2

A few months ago 3

A few years ago 4

Never 5

4. The last time you had sexual intercourse with a man, was a condom used?

Yes 1

No 2

5. In total, with how many different men have you had sex in the last twelve months?

One 1

Two 2

Three 3

More than 3 4

None 5

6. Have you ever asked a man to pay to have sex with you?

Yes 1

No 2

7. If yes, how long ago was the last time you were paid for sex?

Days ago 1

Weeks ago 2

Months ago 3

Years ago 4

8. Was a condom used?

Yes 1

No 2



SECTION D

LEVEL OF KNOWLEDGE ON HIV/AIDS

1. Consistent use of condoms may decrease transmission of the AIDS Virus.

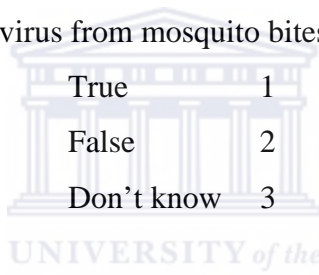
- True 1
- False 2
- Don't know 3

2. HIV/AIDS can be transmitted by casual contact with persons who have the disease.

- True 1
- False 2
- Don't know 3

3. A person can get the AIDS virus from mosquito bites?

- True 1
- False 2
- Don't know 3



4. People can reduce their chances of getting the AIDS virus by having just one sex partner who has no other partners.

- True 1
- False 2
- Don't know 3

5. Is it possible for a healthy-looking person to have the AIDS virus?

- Yes 1
- No 2
- Don't know 3

6. Have you ever talked with the man you are living with about ways of preventing getting the virus that causes AIDS?

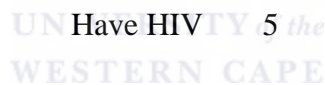
- | | |
|-----|---|
| Yes | 1 |
| No | 2 |

7. If a relative of yours became sick with the virus that causes AIDS, would you be willing to care for her or him in your own household?

- | | |
|------------|---|
| Yes | 1 |
| No | 2 |
| Don't know | 3 |

8. Do you think your chances of getting AIDS are small, moderate, great, or do you think that you have no chance of getting it at all?

- | | |
|----------------|---|
| Small | 1 |
| Moderate | 2 |
| Great | 3 |
| No risk at all | 4 |



9. If you think you chances of getting AIDS virus are low, which of the following statements describe your situation?

- | | |
|----------------------------------|---|
| Abstain from sex | 1 |
| Use condoms | 2 |
| Have only one sexual partner | 3 |
| My partner has no other partners | 4 |
| Had no transfusion/infection | 5 |
| Other (specify)_____ | 6 |

10. If you think your chances of getting the AIDS virus are high, which of the following statements describe your situation?

- | | |
|--|---|
| Do not abstain from sex | 1 |
| Engage in unprotected sex with a partner who has many other partners | 2 |
| Engage in unprotected sex with multiple sexual partners | 3 |
| Had transfusion/STI infection | 4 |
| I am involved in alcohol/substance abuse | 5 |

11. Sometimes, women have sores on or experience a discharge from their vagina.

During the last 12 months, have you had any sore or a discharge from the vagina?

- | | |
|------------|---|
| Yes | 1 |
| No | 2 |
| Don't know | 3 |

12. If yes, did you seek any kind of advice or treatment?

- | | |
|-----|---|
| Yes | 1 |
| No | 2 |

13. When you had a sexually transmitted infection, did you inform the person (s) with whom you were having sex?

- | | |
|-----|---|
| Yes | 1 |
| No | 2 |

SECTION E

DECISION MAKING AND ATTITUDES

1. Husbands and wives do not always agree on everything. Please tell me if you think a wife is justified in refusing to have sex with her husband when

	Yes	No	Don't know
She knows her husband has a sexually transmitted disease	1	2	3
She knows her husband has sex with other women	1	2	3
She has recently given birth	1	2	3
She is tired or not in the mood	1	2	3

2. Do you think that if a woman refuses to have sex with her husband when he wants her to, he has the right to:

	Yes	No	Don't know
Get angry and reprimand her	1	2	3
Refuse to give her money or other earns of financial support	1	2	3
Use force and have sex with her	1	2	3
If she does not want to have sex with him, he must go and have sex with another woman	1	2	3

This ends the interview.

Thank you for your time.

APPENDIX 3

In the first stage of analysis, the UNAIDS indicators were used to describe the socioeconomic status of the women and their knowledge, attitudes, behaviour, education and employment status in relation to HIV risk. These were presented as rates for the study population as a whole. In the second stage of analysis, the author compared HIV risky behaviour of women over 20 years to those under 20 years; married to unmarried, women living in urban and peri-urban areas.

The demographic and socioeconomic category included the age of respondents, education, their employment status, the income levels, land, house or other property ownership, the mobility and the number of children in the households. The following indicator was used in this category:

- Demographic and socioeconomic indicator 1: The percentage of respondents who have attained high school education and above, who are in gainful employment and own either a house, land or any valuable property of all respondents being surveyed.

The sexual behaviour category included respondents' age at first sex, marital sexual behaviour, marital status, multiple sexual partners, non-regular partners, condom usage, forced sex and characteristics of non-regular partners. The UNAIDS indicators on sexual behaviour were used to investigate and compare data from the subgroups. The indicators are created from a number of questions in each area and in some cases they will be modified to suit the study.

The denominator of the indicators is the number of persons surveyed. The following will be the indicators for the sexual behaviour category: Sexual behaviour indicator 1: The Percentage of respondents who had sex with a non-marital, non-cohabiting partner in the

previous 12 months of respondents reporting sexual activity in the previous 12 months.

- Sexual behaviour indicator 2: The percentage of respondents who say they used a condom the last time they had sex with a non-marital, non-cohabiting partner, of those who had sex with such a partner in the previous 12 months.
- Sexual behaviour indicator 3: The age by which half of the young women aged 15 – 20 years have had penetrative sex (median age) of all young women surveyed.
- Sexual behaviour indicator 4: The percentage of unmarried women aged 15 –20 years who had sex in the last six months, among all young unmarried women surveyed.
- Sexual behaviour indicator 5: The percentage of young unmarried women aged 15 – 20 years who had sex with more than one partner in the previous 12 months among all unmarried women surveyed.
- Sexual behaviour indicator 6: The percentage of sex workers who report using a condom with their clients of all the sex workers surveyed having sex with clients in the previous 12 months.

The knowledge, attitudes and practice category included respondents' general knowledge on HIV/AIDS, knowledge on the mode of transmission of HIV, misconceptions about HIV transmission, knowledge and means of protection from HIV, perceived risk of HIV infection, sexual negotiation, attitudes towards purchase and usage of condoms.

In addition this category will also include respondents' attitudes toward HIV infected persons and exposure to the HIV infected persons and HIV testing.

The UNAIDS Knowledge indicators for this category are as follows:

- Knowledge indicator 1: Percentage of respondents who, in response to prompted questions, say that a person can reduce the risk of contracting HIV by using condoms

or having sex only with one faithful, uninfected partner.

- Knowledge indicator 2: Percentage of respondents who reject the two local misconceptions of HIV transmission (mosquito and witchcraft) and who know that a healthy-looking person can be infected with HIV.
- Stigma and discrimination indicator 1: Percentage of respondents expressing accepting attitudes towards people with HIV.

The sexually transmitted infections (STI) category will include respondents' knowledge on STIs symptoms, STI occurrence, treatment seeking behaviour and the behaviour exhibited when you realise you have an STIs.

The following UNAIDS indicators were used:

- Sexual negotiation indicator 1: The percentage of all respondents who have heard of STIs and who believe that if a woman's husband has an STI, she could negotiate safer sex with him by either refusing to have sex or insisting on condom use.

