

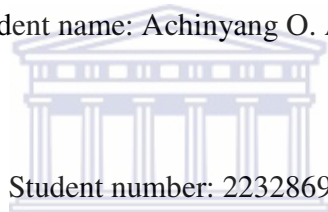
UNIVERSITY OF THE WESTERN CAPE

SCHOOL OF PUBLIC HEALTH

MINI-THESIS

**Knowledge of and attitudes towards HIV and risky sexual behaviour among adolescent  
secondary school students in Bekwarra, Nigeria**

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**Keywords**

HIV/AIDS

knowledge

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Bekwarra, Nigeria

quantitative study

survey



## Abstract

**Aim:** The purpose of the study was to assess the knowledge of the transmission and prevention of HIV/AIDS among secondary school students in Bekwarra, Cross River State, Nigeria; to appraise the students' attitudes towards HIV/AIDS; to describe the risky sexual and other behaviours they engaged in and what factors influenced such behaviours. This study was conducted in the area to systematically examine the widely held notion that adolescents were deviating from the strict sexual mores of the Bekwarra people, thereby exposing themselves to the risk of acquiring HIV.

**Methods:** Information was collected using a cross-sectional survey based on a 64 item questionnaire adapted from the Family Health International HIV/AIDS/STD Behavioural Surveillance Surveys. A random sample of 381 male and female students aged 14 to 18 selected from 12 secondary schools participated in the survey.

**Results:** The level of general awareness of HIV/AIDS was high - 56.9% of participants knew how HIV is transmitted - but their knowledge of STI symptoms was low. Only 24.7% knew at least two STI symptoms in women, while only 20.7% knew at least two STI symptoms in men. One hundred and twenty three (32.2%) students constituting 68 males (17.8%) and 55 females (14.4%) had experienced sexual intercourse. The mean age at first sexual experience was 15.06 years for males and 14.95 years for female students. There was a statistical association between age and experience of sexual intercourse ( $p = .024$ ). Two thirds (65.0%) of the 123 sexually experienced students had intercourse in the last six months, and only 30 of them (24.4%) had used a condom during their last intercourse. The use of condom was most frequent (10.6%) at age 18 and least frequent (.8%) at age 14. About one quarter (26.1%) of the students had taken

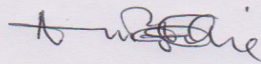
alcohol: 17.3% occasionally, 5.5% moderately, and 2.6% frequently. There was a statistical association between taking alcohol and age ( $p = .038$ ). Over a half (56.1%) of those who had not had sexual intercourse also had not taken alcohol. In contrast, 14.2% had sexual intercourse and also took alcohol, indicating significant statistical association ( $p < .001$ ). 66.8% of the students had neither used drugs nor taken alcohol, whilst 6.8% had both used drugs and taken alcohol, indicating significant association, ( $p < .001$ ). There was a similar association between sexual intercourse and using drugs, ( $p = .002$ ).

**Conclusions:** The study revealed significant high risk sexual behaviour among adolescents in Bekwarra. The high level of risky sexual behaviour and lack of basic knowledge about STIs indicated that access to information is currently insufficient. Health and educational authorities in Bekwarra should utilize the key findings highlighted from this study to design more effective local strategies for sexual health promotion that may help to slow the spread of STIs including HIV/AIDS. Intensive child-friendly programmes for pre-teenagers organized by educators to promote postponement of the early initiation of sexual intercourse may be effective. For adolescents who are unable to control their sexual initiation, improved education on safe sexual practices, especially the use of condoms appears to be necessary.

## DECLARATION

I wish to declare that this mini-thesis is submitted by me to the School of Public Health, University of the Western Cape, South Africa, in partial fulfilment of the requirements for the MPH degree. It is the author's original work and has not been previously submitted for a degree or qualification of any other institution or examining body.

Signature:



Date 30<sup>th</sup> November 2010

Achinyang O Adie



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## **Chapter 1**

### **Introduction**

This chapter presents the background to the study, the study setting, the research problem, the purpose of the study, and an outline of the thesis.

#### **1.1 Background**

The adolescent stage in human development is characterized by increased risk taking. Given the freedom to experiment, adolescents often take risks in order to develop their identity, opinions, and values (Miller, 1989). Sexual risk behaviour, which often occurs with other risk behaviours like substance abuse and violence, has grim consequences for adolescents because of its association with acquiring human immunodeficiency virus (HIV)/Acquired Immune Deficiency Syndrome (AIDS) (World Health Organisation, 2008).

Since its emergence 30 years ago, HIV/AIDS has been recognized as a threat to the viability of societies (Villarreal, 2006). The number of people living with HIV/AIDS rose from around 8 million in 1990 to around 35 million in 2008 (Figure A1.1). This has become a humanitarian and human security issue of unimaginable magnitude, representing one of the most pervasive challenges to human well-being and survival in many parts of the world (Letcher, 2008). Africa is severely hit with this virus. Sub-Saharan African countries remains most heavily affected by HIV accounting for 67% of all people living with HIV (Table A1.1) and 72% of AIDS deaths in 2007 (UNAIDS, 2008). 6.3% of the people living with HIV in 2008 were children under the age of 16, whilst 46.7% were men 47.0% were women. The number of people dying from AIDS in 2008 was about 2.0 million of which 0.28 million (14.4%) were children under the age of 16.

UNAIDS estimates that Nigeria has the second highest burden of HIV/AIDS in the world after South Africa (WHO, 2008).

In Nigeria, the first case of HIV/AIDS was discovered in 1986. The disease has since grown to epidemic levels with rapidly increasing prevalence rates ranging from 1.8% in 1991, to 5% in 2003 based on HIV/syphilis sero-prevalence sentinel surveys among women attending antenatal clinics (FMOH/NACA, 2003). It is estimated that about 3.5 million Nigerians are currently infected with HIV/AIDS.

In 2003, the prevalence of HIV among adolescents in Nigeria was reported to be climbing rapidly (Slap et al., 2003). UNICEF (2007) reported that the prevalence of HIV/AIDS in Nigeria was highest among young adults with 4.7% of 20-24 year olds and 4.9% of 25-29 year olds being infected. The latest WHO factsheet reported that the prevalence of HIV amongst 15-24 year olds was recorded to be up to 4.5%, with 1.2% among males and 3.3% among females (WHO, 2008). Although some parts of the country are more affected than others, all thirty six states of the country have more than 1% prevalence rate (FMOH, 2005).

In Nigeria the highest estimate of the number of people living with HIV peaked at about 6 million in 1994 and fell to around 3 million in 2007. The median estimate increased rapidly from 1990 to 2000 but then slowed down between 2001 and 2007 (Figure A1.2). According to WHO (2008), the probable reasons for the reduction in the rate of HIV infection are improved educational programmes and HIV counselling which have focussed on increasing peoples' knowledge, and preventing behaviours that put them at risk.

Nigeria developed a national health policy in 2000 aimed at preventing behaviour among adolescents leading to sexually transmitted infections (STIs) including HIV, pregnancy, and dropout from school (Slap, Lot, Huang, Daniyam, Zink, and Succop, 2003). Despite the relative success in reducing HIV/AIDS prevalence, there is still a significant risk of further spread and considerable adverse impact on individuals, families, communities and the country in general. This is because the epidemic had extended beyond the principal high-risk group (homosexuals) it was initially associated with, to the general population (Slap et al., 2003). The presence of HIV/AIDS epidemic in Nigeria elicited similar response to that experienced by many countries in Africa, and indeed, the world: denial, acceptance and finally actions to fight the scourge. However, the HIV/AIDS situation is different in Nigeria in that the denial phase was too prolonged, the acceptance too reluctant, and the actions have been too weak to deal with the scale of the epidemic. Although HIV/AIDS spreads across social status, ethnic groups, race and religion, some conditions predispose some people to become more vulnerable to infection than others (Slap et al., 2003). Several underlying factors favour the spread of HIV/AIDS in the country. In the forefront are low levels of literacy, harmful cultural practices, poor health seeking behaviour as well as limited access to information and health services (Umeh, 1997).

In 1987, the National Expert Advisory Committee on AIDS was inaugurated as the health sector response to the report of the first AIDS case in 1986. By 1988, the national AIDS and STI control program (NASCP) was established with the mandate to coordinate all HIV/AIDS activities at the national and state levels. In 1997, a presidential commission on AIDS – the national action committee on AIDS (NACA) was established to implement the multi-sectoral response to the epidemic. Thus Nigeria has passed through several phases in its response to the

epidemic – from the initial denial to a health sector response focusing primarily on prevention, and finally to a multi-sectoral approach. The states individually set up structures to study the scale of the problem in their areas and to design and implement interventions to curtail its spread. The resources channelled into this effort vary according to how this is a priority to each state government, the prevalence of the disease and their financial capabilities (Slap et al., 2003).

Cross River State, where this study was conducted, has one of the highest prevalence rates of HIV in Nigeria (CEDPA, 2009). The infection rate peaked at an alarming 12.1% in 2003 but dramatically dropped to 6.1% by 2005 (NACA, 2009). The disease has a stronghold in Cross River State partly due to its geographical proximity to Cameroon, a bordering high prevalence country (UNAIDS, 2008). The Export Processing Zone being built in Calabar (the state capital) has witnessed an increased volume of trucks conveying heavy goods to and from Calabar. Studies have identified truck drivers as having high prevalence rates for HIV (Orubuloye, Caldwell and Caldwell, 1993; Bwayo 2006). The Cross River State Agency for the Prevention and Control of AIDS is the government body charged with the responsibility of coordinating and implementing programs to tackle the epidemic in the state. Recognizing that adolescents are at high risk for acquiring HIV as a result of their indulgence in drugs and sexual experimentation, the agency has approved the introduction of sexuality education in secondary schools in the state. This is part of a comprehensive strategic plan to curtail the spread of the epidemic in the state (FHI, 2008).

In the absence of a specific cure for HIV, and with no vaccines in sight, preventive measures based on information and education programs remain the mainstay of tackling HIV/AIDS and its associated problems. Even now that antiretroviral therapy is available, not many Nigerian

patients have access to treatment. This further underscores the importance of preventive measures. It is hoped that the information gathered through this study will be useful in planning effective preventive programmes for secondary school going adolescents with regards to HIV/AIDS in Bekwarra and Cross River State as a whole.

## **1.2 Setting**

Nigeria is the most populated country in Africa. It has a population of 140 million. It is constituted by 36 geo-political states, while the states are divided into local government areas (LGAs), with a total of 774 LGAs. Nigeria's three tier system of government comprises the Federal, State and Local Governments, each having different responsibilities for funding, providing and managing social services for the population. Cross River State is one of the states in the south eastern bloc of the country. It has a population of 2.9 million people with a population growth rate of about 2.8% (Ajayi, 2003). The study was conducted in Bekwarra, (Figure A1.3) which is one of the 18 Local Government Areas in Cross River State. Bekwarra has a total area of 306 km<sup>2</sup> and is semi-rural with a population of 105,822 people. (National Bureau of Statistics, 2006). Adolescents less than 20 years old constitute 21% of the population. This local authority area is of historical significance to the Nigerian nation. It was in one of its towns, Gakem, that the first shot of the Nigerian Civil war (1967-1970) was fired (Akpan, 1972). That war started the disintegration of values in Nigeria, spawning violence, hardships, poverty, hunger, drug abuse, family dysfunction and prostitution, which still rear their ugly heads today (Ajayi, 2003). These social factors, in addition to the low proportion of gross domestic product allocated to health care services, have contributed to the spread of HIV/AIDS (Ajayi, 2003). Bekwarra indigenes are conservative traditional people with strict customs and values. Open discussion of sexual issues tends to be frowned upon, depriving adolescents of being exposed to



life skills that enable them to cope and enhance their survival with the reality of HIV/AIDS. Apart from mandatory health statistics - birth/death records and notifiable diseases - there is limited information from Northern Cross River State, Nigeria concerning the knowledge, attitude and behaviour of adolescents with regards to HIV/AIDS. Most previous studies have been concentrated around the state capital, Calabar, where tertiary health institutions are located (Slap et al., 2003; Oyo-Ita, Ikpeme, Etokidem, Offor, Okokon and Etuk, 2005; Uthman, 2008). This study conducted in Bekwarra will therefore help to fill the gap in local knowledge.

### **1.3 Statement of the problem**

It is the opinion of traditional and religious leaders in Bekwarra that moral behaviour among adolescents in Bekwarra seem to fall below the expected standard which is virginity until marriage. For example, various opinion leaders such as school inspectors and teachers, religious and community leaders have voiced their concerns about the general lax moral attitudes of youth with regards to sexual behaviour. However, other people have dismissed these concerns, stressing that the community cannot be expected to conform to the old tradition of chastity since it is no longer homogenous. Development has created commercial enterprises which are manned by workers from other parts of the state and country. The introduction of foreigners and subsequent dilution of local values is therefore inevitable.

Despite the concerns of escalating rates of teenage pregnancy and STIs in the local authority area, none of these issues have been systemically investigated. Speculating that the sexual behaviour of learners have some influence on their educational achievement, the Parents Teachers Associations (PTA) of some secondary schools in the area had pledged to back a study that will assess the sexual behaviour of school going youth and which will offer recommendations for intervention. The researcher discussed the need for the study with the local

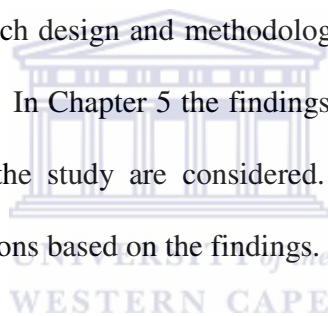
authority officials, the primary health care personnel and representatives of the PTA, and they were all supportive of the study.

#### **1.4 Purpose of the study**

The purpose of the study was to assess the HIV knowledge, attitudes and risky sexual behaviour of adolescent secondary school students in Bekwarra, Nigeria, with a view to making recommendations to the health and education departments on how to curtail the spread of HIV/AIDS among school-going adolescents in the local government area.

#### **1.5 Layout of thesis**

Chapter 1 gives the background as well as the purpose of the study. The literature review is presented in Chapter 2. The research design and methodology is described in Chapter 3 and the results are presented in Chapter 4. In Chapter 5 the findings are discussed with reference to the literature and the limitations of the study are considered. The conclusions are presented in Chapter 6 including recommendations based on the findings.



## CHAPTER 2

### LITERATURE REVIEW

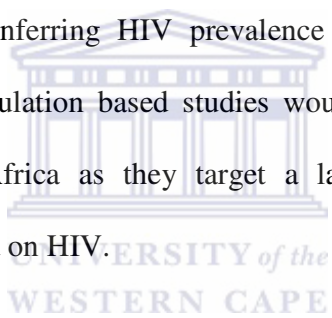
#### 2.1 Introduction

This chapter discusses information from the literature with respect to (a) HIV prevalence and adolescence; (b) adolescent risk behaviour; (c) sexual knowledge and risk taking behaviour; (d) deviant behaviour as a factor for sexual risk taking; (e) age at first intercourse as a risk factor for HIV; (f) peer influence and sexual risk taking; (g) HIV risk perception; and (h) drug and alcohol use as variables for HIV risk.

#### 2.2 HIV prevalence and adolescence

With a national HIV prevalence rate of 4.6% in 2008, Nigeria remains the second most burdened country globally, after South Africa (WHO, 2008). In 2008 more than 350,000 new cases were diagnosed in the country, and there were over 280 AIDS-related deaths (NACA, 2009). Countrywide, the prevalence rate is higher in urban than rural areas, those in the 20-29 age bracket being the most affected. However, in the South-south zone and the South-east zones the prevalence is highest among the 15-19 age group (FMOH, 2005; WHO, 2008). This portends grave economic consequences for the region as incapacitation of the youth will arrest their educational advancement and hamper their participation in the economic workforce. This would propel the society into a vicious downward spiral of poverty as narrated by Etokidem and Udonwa (2004) in their case studies of the predicaments facing rural Nigerian people living with HIV/AIDS.

Only a few studies on the prevalence of HIV among adolescents in Africa have been conducted. Garcia-Calleja, Gouws and Ghys (2006) reported that only nineteen countries in Africa to date had conducted national population based surveys on HIV prevalence. Notably Nigeria was not among these countries and as a result, sentinel surveillance among pregnant women attending antenatal clinics have been widely used to monitor trends of HIV in the general population (Garcia-Calleja Gouws and Ghys, 2006). In a review article, Richens (1994) observed that the frequency of STIs (including HIV/AIDS) in younger age groups in developing countries is not well documented but can be gauged indirectly by reported experience of STIs in surveys of adolescents and young adults. However the validity of such studies is not well established and caution should be exercised in inferring HIV prevalence rates by extrapolation from data generated from such studies. Population based studies would provide more accurate data on adolescent HIV prevalence in Africa as they target a large number of subjects and are specifically designed to gather data on HIV.



Interpreting the results of surveys which compare HIV prevalence in different age groups is difficult because different researchers use different age categories. It is not always possible to specify adolescents as a distinct category. Most surveys included the adult population (typically females aged 15-49 years and males aged 15-49 years or 15-29 years), except Zimbabwe and South Africa where the focus was on younger people aged 15-29 and 13-24 respectively), and the Burundi survey which included all people older than 12 years (Garcia-Calleja, Gouws and Ghys, 2006) The South African study by MacPhail Williams and Campbell (2002) reported on data from a relatively small random sample of 507 people between 13 and 24 years old. Subjects were tested for HIV, as well as other STIs, and answered a behavioural questionnaire. The result showed that the prevalence of HIV was substantially higher among young women than among

young men. Similarly, in Nigeria, WHO (2008) reported that the prevalence of HIV in 15-24 year olds was higher (3.3%) among females than males (1.2%). MacPhail et al. (2002) attributed higher HIV rates among women to the difference in the relative age of sexual partners. The authors claim that girls tend to have partners older than themselves; have partners with more sexual experience and a higher likelihood of having been infected.

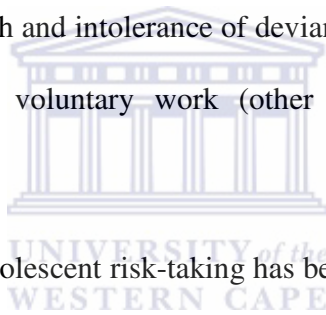
### **2.3 Adolescent risk behaviour**

It is widely accepted by scholars of adolescent health and development that the greatest threat to the wellbeing of young people worldwide come from preventable and often self-inflicted causes including automobile and other accidents, violence, drugs and alcohol use, delinquency, and sexual risk taking (Bell, Bhana, Petersen, McKay, Gibbons, Bannon and Amaty, 2008; Jessor, 1991; Kalina et al., 2009, Michaud, 2006; Ponton, 1997; Steinberg, 2008).

Ponton (1997) presents sixteen case stories on the lives of adolescents who were involved in unhealthy risk taking in America. At the outset she cautioned that when society assumes that all adolescent risk-taking is dangerous, we betray our teenagers. The author claims that as much as there are inherent dangers in some risks, there are tremendous benefits that others can yield. Although adolescence is a time of risk-taking, frequent risk-taking include learning new experience, quickly evaluating one's decisions, reflecting on the outcome of actions and thinking on one's feet. Ponton cautions that parents and guardians need to know when normal childhood explorative behaviour becomes dangerous behaviour and to intervene for the safety of teenagers.

Jessor (1991) described a conceptual model to predict adolescent risk behaviour (e.g. drug use, delinquency, drink-driving, unhealthy eating, smoking, sedentary lifestyle, truancy) resulting in

deleterious health/life outcomes (e.g. disease, lack of fitness, low social profile, delinquent behaviour and limited preparedness for adulthood) based on certain antecedents. Various risk and protective factors were identified. The framework included five domains: social environment, perceived environment, personality, other behaviour, and biology/genetics. The risk factors included poverty and racial inequality (social environment); conflict with parents and friends (perceived environment); low self esteem and perceived life chances (personality); alcohol abuse and poor school work (other behaviour) and family history of alcoholism (biology/genetics). The protective factors included cohesive family and neighbourhood resources (social environment); good models for conventional behaviour (perceived environment), valuation of achievement and health and intolerance of deviance (personality); church attendance and involvement in school and voluntary work (other behaviour) and high intelligence (biology/genetics).



The primary approach to reduce adolescent risk-taking has been through education, both at home and at school. However, the high rates of risky behaviour among adolescents relative to adults despite educational intervention have prompted scientists to seek for the biological basis of risk taking (Steinberg, 2009). Patterns of brain development during adolescence and young adulthood have captured research interest. Enabled by the growing accessibility and declining cost of structural and functional imaging techniques, an expanding network of scientist have begun to map out the course of changes in brain structure between childhood and adulthood, trying to link changes in brain structure with behaviour (Patton and Viner, 2007; Steinberg, 2005). As the results of such studies become more widely available, parents and guardians would be better equipped to understand and guide teenagers during this turbulent period of their development.

However, we need to look beyond the biological basis of risk taking and explore other factors that could potentially contribute to risk taking behaviour.

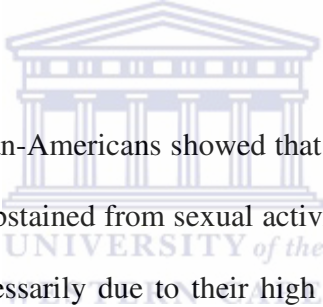
## **2.4 Sexual knowledge and risk taking behaviour**

It is generally assumed that the general populace has a high knowledge of HIV because it has become a topical issue. Although there is good understanding of the epidemiology of HIV/AIDS across Africa, surveys of the knowledge, attitudes and behaviour of students reveal that such knowledge does not necessarily reduce risk taking behaviour (Maswanya, Moji, Horiguchi, Nagata, Aoyagi, Honda and Takemoto, 1999; Vered, Makuka, and Tembo, 2001; Kaaya, Flisher, Mbwambo, Schaalma, Aaro, and Klepp, 2002). The available information paints a worrying picture. For example, while superficial knowledge about HIV may be high, there are many gaps about how HIV is or is not transmitted. In a study about people attending an STI clinic in the Cape Peninsula, South Africa, Bletcher et al. (1995) found that the responses to a series of true – false questions suggested high levels of understanding but open-ended questions revealed that this was not the case. Sixty three percent of respondents in the study admitted that they knew little or nothing about HIV.

Since knowledge of HIV and sexual risk behaviour is a determinant in guiding sexual attitudes and practice, some studies have assessed adolescent knowledge of these problems (Tapia-Aguirre et al., 2004; Dancy et al., 2006; Archibald, 2007; Robillard, 2001). The school-based study of Tapia-Aguirre, Arillo-Santillan, Allen, Angeles-Lierenas, Cruz-Valdez and Lazcano-Ponce, (2004) conducted on Mexican adolescents yielded contradictory results. Among young men, high levels of HIV/AIDS knowledge increased the likelihood of condom use (OR 1.4, 95% CI, 1.1-1.7). On the other hand they found high levels of knowledge decreased likelihood of

using condoms (OR 0.7, 95% CI, 0.5-1.0) among young women. However, this conclusion may be in error, because statistically there was no significant difference.

One study assessed the differences in knowledge on HIV/AIDS amongst Australian and South African multi-campus undergraduate university students (Smith, Visser, Akande, Rosenthal and Moore, 1998). The average proportion of correct responses given by South African and Australian students in a test of HIV/AIDS knowledge was less than 43%, and more than 64% respectively. The authors commented that although increase in knowledge in itself is not enough to produce behaviour change, the South African students' level of knowledge may provide a necessary, but not sufficient impetus for people to identify their behaviour as risky - the first step towards behaviour change.

Archibald's (2007) study on African-Americans showed that even though adolescents have high levels of knowledge of HIV they abstained from sexual activity mainly because of parental fears and church teachings and not necessarily due to their high levels of knowledge. This concurs with the earlier Australian/South African study which demonstrates that knowledge alone does not always influence behaviour. It is therefore important to understand these interrelated factors in order to design and implement interventions that will reduce the risky sexual behaviour of school adolescents.+  


Oyo-Ita, Ikpeme, Etokidem, Offor, Okokon, and Etuk (2005) recorded that the main source of information on HIV/AIDS of the school-going adolescents in Calabar, Nigeria was the mass media including television (53.3%) radio (43.8%) health education in clinics, hospitals, and schools (36.9%) and newspapers/magazines (35%). Parents (2.2%) were the least used source of information. In sub-Saharan East Africa, however, the evidence indicated that the most



important sources of information about HIV/AIDS were different, (Pratt, Obeng-Quaidoo, Okigbo and Lincoln, 2000). A survey of Kenyan adolescents to investigate their health information sources, focusing on HIV/AIDS, revealed that the participants relied most heavily on health clinics. Those with high knowledge of contraceptives were more likely than others to use the mass media for information (Pratt et al., 2000). A survey in Uganda (Ybarra et al., 2008) revealed in contrast that 81% of adolescents turned to parents, teachers, and other adults for information about sexual health matters. It was concluded that in Uganda, interaction with adults is an important components of effective disease prevention and health promotion campaigns. The role of parents regarding the sexual health of their children was also emphasized by Anjejo et al. (2007) in a survey of factors associated with sexual intercourse amongst African born adolescents in California, USA. In West Africa, however, adults may not communicate so effectively with their children about sexual matters. Children may feel reluctant or embarrassed to discuss sexual topics with their parents, and consequently turn to other sources of information, mainly the mass media and health education programs (UNAIDS, 1997; Mturi, 2001). Oyo-Ita et al. (2005) also suggested that the poor reading culture of Nigerian students was a factor to explain why their detailed knowledge of HIV transmission and prevention was relatively low.

## **2.5 Deviant behaviour**

Deviant behaviour is defined generally as conduct that violates cultural norms, not only the criminal infringement of formal laws but also the contravention of informal customs, habits, traditions and beliefs (Goode, 2007). Understanding adolescent deviant behaviour could shed light on what pushes adolescents into risky activities (Metzler, Noell, Biglan, Aryl and Smolkowski, 1994). Studies in South Africa and the United States of America have confirmed

that association with deviant peers leads to risky behaviour (Wild, Fisher, Bhana and Lombard, 2004; Ary, Duncan, Biglan, Metzler, Noell and Smolkowski, 1996). Wild et al. (2004) reported that low self-esteem in the family and school contexts were independently associated with multiple risk and deviant behaviours in adolescents of both sexes. They point out that youth from dysfunctional families characterized by high levels of conflicts, low parental involvement and inadequate monitoring tend to drift to deviant peer groups. Wieckowski et al. (1998) conducted a study to examine the severity and frequency of deviant sexual behaviour in children in the United States of America and found strong evidence of an escalation in the severity of deviant sexual behaviour. Its applicability to the West Africa context can be questioned because of cultural disparity.

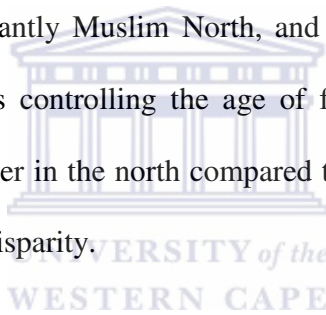
## **2.6 Age at first intercourse**

The age of first intercourse is a critical factor for HIV as younger teenagers exhibit a high degree of risk taking. This has been suggested to relate to the level of cognitive development of younger teenagers, which tends to preclude them from taking effective action despite the knowledge of risk (Mellanby, Phelps and Tripp, 1993). Early onset of sexual intercourse is associated with increased lifetime prevalence of sexual partners, thereby increasing the risk of exposure to sexually transmitted diseases, including HIV/AIDS, and pregnancy (Fatusi and Blum, 2008). Research primarily from developed countries indicates that the timing of sexual debut among adolescents is influenced by a wide range of factors including age, gender, poverty, family structure, educational level, pubertal timing, socio-economic status, self-efficacy, peer influences, religiosity, knowledge and perceived risk of STIs, parenting practices and supervision, community, media and health inequalities (Babalola 1994; Valle et al., 2005;

Ashby, Arcari and Edmonson, 2006; Anderson et al., 2007; Uthman, 2008). It has been found that by the end of their 15<sup>th</sup> birthdays, a substantial number of boys and girls in some developing countries have already engaged in risky heterosexual vaginal intercourse (Dixon-Mueller, 2009). Adinma et al. (1994) recorded the incidence of sexual activity amongst Nigerian teenagers at 26.3%. Morhason-Bello et al. (2008) similarly recorded that 28.3% of secondary school students in Ibadan had previous sexual experience, with the highest proportion being male. Isiugo-Abanihe and Oyediran (2004) reported that 31.5% of Nigerian students in their survey had experienced sex, whilst in a survey of 950 secondary school girls in Lagos Nigeria, sexual activity was reported by 29% of the students (Odujinrin, 1991). Similarly, in the United States, nearly 3 in 10 (27%) of 13-16 year-olds were reported to be sexually active (MSNBC, 2005). A survey conducted in 24 European countries (Godeau et al., 2008) revealed that 26.3% of teenage boys and 19.1% of girls reported they had sexual intercourse. These national surveys have indicated that in most countries the proportion of adolescents who have experienced sexual intercourse is around one third or less.

In a study by Warren, Santelli, Everett, Kann, Collins, Cassell, Morris, and Kolbe, (1998) it was reported that the median age for initiation of sexual intercourse by American adolescents was 16.5 with slight gender and racial differences. Early unprotected sexual initiation can trigger a succession of harmful emotional, physical and social outcomes especially for girls. The physiological vulnerability that places adult women at higher risk than men at acquiring STIs/HIV from an infected partner during a single act of vaginal intercourse is heightened among young adolescent girls especially when intercourse is initiated before menarche or soon thereafter (Moore et al., 2007).

Uthman (2008) reported that the median age of first intercourse in 5331 Nigerian females who participated in the 2003 Nigeria Demographic and Health Survey was 15 (range 14 to 19). The median age of sexual debut in the North West (14) was lower than in the South West (17-19), whilst in the North East and South East, including Cross River State the median age of sexual debut was 15. Uthman (2008) concluded that local community contextual characteristics were associated with the age of initiation of first intercourse in Nigeria. Adolescents living in rural areas with poor socio-economic status and low levels of educational attainment tended to initiate sexual relations earlier than urban residents with better education and richer socio-economic status. In addition, a survey conducted by Agha (2009) concluded that religious and cultural differences between the predominantly Muslim North, and the predominantly Christian South may also be implicated as factors controlling the age of first intercourse in Nigeria. School attendance, which is relatively lower in the north compared to the south, is speculated to be one of the factors responsible for this disparity.



The age of initiation of sexual intercourse is an increasingly important issue to study in Nigeria given that sexually active adolescents are at increased risk of multiple deleterious outcomes including STIs, unwanted pregnancies, and abortion complications. The consequences of risky sexual behaviour at an earlier age amongst adolescents have become a serious public health priority in Nigeria (Arowojolu et al., 2002). It was reported that 16.5% of adolescents in Nigeria have some kind of STI, and more than 60% of new HIV infections occurred in adolescents (Brabin, 1995). Performing or seeking an abortion is illegal in Nigeria, yet Otoide (2001) found that up to 80% of Nigerian patients with abortion-related complications were adolescents. Young teenage mothers were more likely than older women to suffer from serious complications during delivery, resulting in higher morbidity and mortality for both mothers and infants (National

Population Commission, 2000). Younger Nigerian mothers frequently experienced vesico-vaginal fistula (VVF) resulting in bladder incontinence, rejection by their families and survival by prostitution (Centre for Health Sciences Training, Research & Development, 2000). In 2000, seventy percent of an estimated 200,000 cases of VVF were reported in northern Nigeria, where the age of first intercourse is the lowest (Centre for Health Sciences Training, Research & Development, 2000).

## **2.7 Peer influence**

Peer influence compels group members to adhere to the standard behavioural guidelines adopted by the group. The need to conform to a social norm either promotes or hinders behaviour change in an individual (Zwane et al., 2004). In Bekwarra peer influence is exerted through age grades, which are powerful institutions that exert considerable control on conduct and behaviour of their members (Personal communication, Dr Ntamu, G.U., 14 June 2009). Members of a particular age grade are expected to conform in general terms to group norms and behaviour. People born within a period of about 3-5 years belong to a particular age grade. The different age grades go by peculiar sometimes fanciful names, often coined for dramatic events or epochs in history. Deviation from the norms and regulations of an age grade often attracts severe sanctions, including expulsion, which is viewed as a public disgrace. Hence peer control of group behaviour has a positive impact on HIV/AIDS control as sexual coercion, rape and other sexual crimes attract severe penalties if perpetrators are caught.

A study in Australia investigated the association between adolescents' perceptions of parental and peer attitudes towards sexuality and HIV precautions, and risky sexual behaviours (Moore & Rosenthal, 2006). Adolescents believed that peers were more likely to discuss sexuality than

parents. It also found that adolescent risk-taking was related to the perceived attitudes of significant others (Moore & Rosenthal, 2006) – in this case, youths were more likely to conform to group norms to gain acceptability.

Working on the premise that peers plays a strong role in risk-taking among youth, Babalola (2004) examined the relationship between perceived peer behaviour and the timing of first sex among Rwandan youth. A total of 1327 persons were interviewed using structured questionnaires that included questions on sex-related attitudes and behaviour, self-concept, HIV/AIDS knowledge and attitudes, substance use, and media exposure. The author noted that although the analyses probably underestimated timing of first intercourse in the study population due to underreporting, the data confirmed the working hypothesis that perceived sexual behaviour of peers is the strongest correlate of early sexual debut.

## **2.8 HIV risk perception**

Most behavioural intervention programs which aim to inspire adolescents to recognize their own vulnerability to infection rely on the adolescents' perception of risk. Low perceived risk is generally assumed to be associated with high levels of risk-taking behaviour. If people do not feel that they are at risk of acquiring HIV, then they will not take steps to avoid it, and health promotion messages will be meaningless to them (Macintyre et al., 1999). Nevertheless, there is call for public health interventions to place less emphasis on risk and danger and to highlight the more positive aspects of the healthy development of young people in a safe and encouraging environment (Michaud, 2006).

Some studies in sub-Saharan Africa countries have considered perceived risk as a predictor of risk-taking behaviour, such as using condoms inconsistently or having multiple sex partners (Maswanya et al., 1999; Simbayi et al., 2005). Multivariate logistic regression models were used to describe the strength of association between risky sexual behaviour and perceived risk among 12-19 year old Ugandan adolescents. After controlling for age, education, residence, region, and marital status, the perceived risk was significantly associated with risky sexual behaviour among males but not among females. Most female adolescents felt at greater risk of HIV infection than males. In another study in KwaZulu-Natal involving 3052 individual interviews with adolescents aged 14-22 Macintyre et al. (1999) surmised that there were remarkable gender disparities in the perception of HIV risk. Among boys who engaged in high risk behaviour, there was a greater degree of confidence in the use of condoms which was associated with a low risk perception. Among girls, the risk perception engaged in high risk behaviour was associated with age. Macintyre et al. (1999) revealed that for males but not for females the findings were contradictory to the assumption that high perceived risk is generally assumed to be associated with low levels of risk-taking behaviour.

## **2.9 Drug and alcohol abuse**

Many studies across the world have demonstrated a high prevalence of HIV risk behaviours among injection drug users, requiring extensive programs to reduce HIV/AIDS mainly through use of sterile needles and syringes (WHO, 2004). The recent rapid spread of drug abuse across African youth and the link between injecting drugs and increased levels of HIV infection was reviewed by Odejide (2006). Many factors were found to contribute to the widespread drug abuse among Nigerian adolescents of which peer group pressure, emotional stress, family breakup and socio-

economic issues are perceived to be influential. The easy availability and distribution of illicit drugs in the country increases exposure of the vulnerable and subsequent use. According to the United Office on Drugs and Crime (UNODC, 2007), the prevalence of drug abuse amongst the Nigerian adolescents is widespread. One survey of Nigerian students (Ihezue, 1998) indicated that 28% used illicit drugs, the majority of which were male. Injecting drugs has recently become more prevalent amongst adolescents in Nigeria, which has compounded the related issues of HIV/AIDS infection, and corroborates reports that many cases of HIV/AIDS in Nigeria have been transmitted through drug injection.

Much research in other countries carried out over the last 20 years has indicated that adolescent drug users had more sexual partners, higher frequencies of unprotected sex, and were more likely to have early pregnancy (Mott & Heurin, 1988; Weinberg et al., 1998). A reverse relationship was also been found. Adolescents who refrained from drugs had less sexual partners, lower frequencies of unprotected sex, and were less likely to have early pregnancy. It was also found that alcohol (60%) and tobacco (35%) were frequently used by Nigerian adolescents (Ihezue, 1998). Adaramaja et al. (2010) conducted a survey of the lifestyles of adolescents in Kaduna state, Nigeria and concluded that adolescent males, who significantly more than females, were in the habit of excessive drinking, drug abuse, smoking and indiscriminate sexual practices should be positively counselled to modify their behaviours and encouraged to adopt more healthy lifestyles.

The background to the HIV/AIDS crisis and literature concerning the determinants of high-risk sexual behaviour of adolescents has been reviewed in this chapter. The literature review was broken down into 8 sections: HIV prevalence and adolescence, adolescent risk behaviour, sexual



knowledge, deviant behaviour, age at first intercourse, peer influence, HIV risk perception, and drug and alcohol use as variables for HIV risk.



## **Chapter 3**

### **Methodology**

#### **3.1 Research design**

A quantitative descriptive cross-sectional survey was performed allowing objective collection of information. A qualitative approach would have been less appropriate because of the sensitive nature of the topic. The survey method had the advantage of economy of design and rapid turnaround of data collection. It allowed attributes of the larger population of adolescents to be inferred from the small random sample that was studied.

#### **3.2 Target population**

All twelve secondary schools in Bekwarra were included in the study which included schools located in remote areas with homogenous populations. The study population consisted of all male and female secondary school students aged 14-18 from these secondary schools. This age range was chosen because they are deemed capable of understanding sexual issues. More so, they are at the age where sexual experimentation occurs. The following were the exclusion criteria: current marriage or divorce, current or any previous pregnancy. Those in these categories are assumed to be sexually experienced whose pattern of behaviour may not mirror that of less experienced adolescents.

#### **3.3 Aim and Objectives**

The aim of the study was to assess the knowledge of, and attitudes towards HIV and risky sexual behaviour among adolescent secondary school students in Bekwarra, Nigeria.

The objectives of the study were:

- To assess the knowledge and attitudes of school-going adolescents in this locality about HIV/AIDS transmission and prevention.

- To assess the students' attitude concerning the sources of HIV/AIDS information available in the locality.
- To describe the nature of risky sexual behaviour and practices of adolescent students.
- To investigate the factors influencing the students' risk-taking behaviour.

### **3.4 Sample size and sampling procedure**

Of the total of 4,500 students, it was estimated that two thirds (3000) fell within the designated age group. The study aimed to obtain a sample of at least 432 students i.e. 36 from each school. This sample size was estimated assuming  $\pm 5\%$  precision (Israel, 2003) and was derived from a table of statistical values (Fisher & Yates, 1974). Making allowance for non-responders, incomplete and defaced questionnaires, it was estimated that at least 380 questionnaires would be available for analysis. Stratified random sampling strategy was used to recruit 36 students from each school. A list of all students' names in each school was obtained. Those names within the required age range were selected and allotted according to gender. Eighteen learners were randomly selected from each gender group by pulling names out of the box. Students who opted not to participate in the study were replaced by picking extra names.

### **3.5 Data collection**

The questionnaire (See Appendix 1) was developed by adapting the Family Health International HIV/AIDS/STD Behavioural Surveillance Surveys (BSS) questionnaire which was designed to be used with unmarried male and female youth target group (FHI, 2000). The questionnaire was piloted in a vocational secondary school with students of comparable age to check for comprehension and cultural appropriateness. The piloted group, which were excluded from the real study, were debriefed and their inputs sought to modify the final questionnaire. For instance,

the Bekwarra word for marijuana, 'igbo' was included in Q64 for better comprehension. The period on which information on past sexual experience was sought was reduced from one year to six months in the final questionnaire for better recall.

The questionnaire was administered by two research assistants (community health nurses) who were trained by the principal investigator. Participants completed the questionnaires themselves under the supervision of the research assistants. The research assistants provided detailed explanations on the questionnaire, advised on reflective responses and offered assistance when needed. The survey was conducted during the regular school hours after the students had been asked for their voluntary participation. Participants were requested to sit apart and not to communicate with one another during completion of the questionnaire so as to encourage honest individual responses. The questions were in English, the language of instruction in Nigerian schools, and addressed several measures. Basic socio-demographic data concerning age, sex, place of birth and religion and school grade were elicited. The questions were close-ended. The questions aimed to collect data in five distinct areas: 1) Sources of HIV/AIDS-related information. 2) Questions concerning knowledge of transmission. 3) Knowledge of prevention. 4) Personal risk taking behaviour, awareness and attitude toward condom use. 5) Factors influencing risky sexual behaviour.

### **3.6 Data analysis**

The numerically coded responses to the questionnaire items were originally stored in a Microsoft Excel® 2007 spreadsheet before the file was reconstructed in the data editor of SPSS® version 17.0. There were 381 rows in the data file, with one row for each respondent. The columns with variable names Q1 to Q64 contained the numerically coded responses to the 64 questionnaire items. The data file was proofread and checked for accuracy by a different person to the one who

entered the data. The file was then screened for missing values. Every missing value was replaced with a zero and recorded as “No response”. This was important, because a high proportion of no responses, or a systematic pattern in the missing values, could imply that the respondents did not understand the questions or did not want to answer, and would end in the results being skewed. The frequency distributions of all the responses to each of the 64 questions were computed as counts and percentages. Checks were made to ensure that a total of 381 valid responses were obtained for the questions that required one answer from each respondent, and to ensure that the correct numbers of responses were obtained for questions that required a conditional answer, depending on a “Yes” or “No” response to a previous question.

Chi-square tests were performed using the SPSS “Descriptive Statistics/Crosstabs” procedure (Field, 2009) to determine if there were statistically significant associations between the frequencies in the rows and the frequencies in the columns of two-way cross-tabulations. The Chi-square test operates by comparing the observed frequencies against the computed frequencies expected by random chance. The null hypothesis was that there was no association between the frequencies in the rows and the frequencies in the columns. The alternative hypothesis was that there was an association between the frequencies in the rows and the columns. The decision rule was to reject the null hypothesis and accept the alternative hypothesis if the probability (p value) of the computed Pearson’s Chi-square statistic was less than .05. This inferred that the association or dependency was statistically significant at the 5% level, i.e., that the likelihood that random chance was the cause of the association was less than 5%. If the p value of Pearson’s Chi-square statistic was  $\geq .05$  then the null hypothesis was not rejected. The limitation of the Chi-square test was that it could not be used if 50% or more of the expected frequencies were less than 5. An independent samples t test assuming equal variances was

performed to test the null hypothesis that there was no difference between the mean ages of males and females when they first experienced sexual intercourse. The alternative hypothesis was that the mean ages were different. The decision rule was to reject the null hypothesis and accept the alternative hypothesis if the p value of the computed t statistic was less than .05.

### **3.7 Validity**

The strength of the study was based on a sample of adequate size, use of stratified random sampling, inclusion of students of both sexes, use of items from a validated survey instrument and its adaptation to suit the local cultural context. The validity of the study was enhanced by training the research assistants and adherence to the protocol (Stangor, 2007).

### **3.8 Limitations**

One limitation to the study was that learners who missed school on the study day were excluded. Students who were absent from school may represent a distinct group whose responses might have been different to those who had attend school (Fraenkel & Wallen, 2007). The use of quantitative method, whilst suitable for anonymous collection of data deprived the study of gaining greater understanding that could have been explored with qualitative study. Respondent bias is known to be particular problem when respondents are asked to reply to sensitive questions, e.g., about sexuality and drug use, because they may feel uneasy about disclosing personal information (Abbet et al., 1994; Catania et al. 1986). Religious beliefs and strict adherence to traditional values like virginity were potential confounding factors because the participants might give misleading answers that were supposed to be culturally correct. To overcome this limitation, the research assistants explained that the responses were anonymous and therefore the students would not be identified in any way. Also, the importance of responding in a truthful manner was stressed because the answers would be used to inform

interventions that could be of benefit to them. Another potential limitation to the study was that of recall bias. This occurs when in the process of collecting retrospective data subjects rely on memory to recall past exposures (Peat, Mellis, Williams and Xuan (2001). In general, longer recall intervals result in either underreporting or inaccurate recall of sexual practices or partners (Fenton, Johnson, McMannus and Erens, 2001). Recall bias was anticipated at the study design stage and addressed by limiting information on past sexual experience to six months prior to the study.

### **3.9 Ethical considerations**

Approval was obtained from the Departments of Education and Health. The school principals were briefed and assured of strict confidentiality. Participants were requested to give written consent (see appendix 2) after receiving verbal explanations in English, supplemented with information sheets (see appendix 3). It was made clear to the students that participation was voluntary and those who opted out would not suffer any consequences. HIV/AIDS being a highly stigmatised condition, participants were assured of strict confidentiality. Written consent was obtained from participants and parents of students under 18. They were also assured that their names would not appear on any documentation to ensure anonymity.

## Chapter 4

### Results

The responses to Section 1 of the questionnaire (socio-demographic and economic background) are presented in Tables 4.1-4.2. The responses to Section 2 of the questionnaire (knowledge) are presented in Tables 4.3 and 4.4 and Figure 4.1. The responses to Section 3 of the questionnaire (HIV/AIDS: attitudes and beliefs) are presented in Tables 4.5 to 4.8. The responses to Section 4 of the questionnaire (sexual behaviour) are presented in Tables 4.9 to 4.13 and Figure 4.2 to 4.5. The responses to Section 5 of the questionnaire (alcohol and substance abuse) are presented in Tables 4.14 to 4.18 and Figure 4.6.

#### 4.1 Socio-demographic and economic background

The frequency distributions of the socio-demographic backgrounds of the students are presented in Table 4.1. Three hundred and eighty one students participated in the survey, of which approximately half were male (48.8%) and half (51.2%) were female. Their ages ranged from 11 to 18. Most (76.6%) were 16 or over whilst 23.1% were 14 or 15. Their years of schooling ranged from 2 to 14 years. (Although the value of 2 years was reported by a respondent it is unlikely to be correct). Over half (53.5%) had ten years of schooling, whilst 13.5% had less than 10 years and 33% had over ten years at school. Over half of the students (51.1%) were living with their parents, whilst about one fifth (20.7%) lived with their mother alone, about one fifth (21.6%) lived with siblings, aunts, uncles, neighbours or other persons, and 6.6% lived with their grandparents.



**Table 4.1 Socio-demographic background (n=381)**

<b>Gender</b>	<b>Frequency</b>	<b>Percent</b>
Male	186	48.8
Female	195	51.2
<b>Age (years)</b>		
11	1	.3
14	37	9.7
15	51	13.4
16	84	22.0
17	106	27.8
18	102	26.8
<b>Schooling (years)</b>		
2	1	.3
8	17	4.5
9	33	8.7
10	204	53.5
11	75	19.7
12	44	11.5
13	5	1.3
14	2	.5
<b>Who living with</b>		
Both parents	225	51.1
Mother alone	91	20.7
Grandparents	29	6.6
Brother above 18	17	3.9
Sister above 18	17	3.9
Uncle	16	3.6
Brother below 18	15	3.4
Aunt	15	3.4
Sister below 18	6	1.4
Other persons	5	1.1
Neighbour	4	.9

The frequency distribution of the demographic background of the students is provided in Table 4.1. 91.4% (i.e. 59.1% + 23.9% + 8.4%) reported that only their father and/or mother paid the school fees. 4.5% paid entirely for themselves. Two students (0.5%) reported their only financial support was from a Government Scholarship. About a third (31.0%) never missed school even though they did not have enough money. About a half (49.6%) sometimes or often missed school because they did not have enough money, whilst 13.9% very often missed school for this reason. Less than a half (43.3%) of the students worked to earn money themselves.

**Table 4.2 Economic background (n=381)**

<b>Who pays school fees</b>	<b>Frequency</b>	<b>Percent</b>
Father	225	59.1
Mother	91	23.9
Father + Mother	32	8.4
Myself	17	4.5
Sex partner	3	.8
Father + Sex partner		.3
Mother + Father + Myself		.5
Father + Myself	2	.5
Government scholarship	2	.5
Mother + Sex partner	1	.3
Mother + Government scholarship	1	.3
Mother + Myself	1	.3
Don't know	3	.8
<b>Missed school because not enough money</b>		
Sometimes	159	41.7
Never	118	31.0
Very often	53	13.9
Often	30	7.9
Don't know	21	5.5
<b>Works to earn money for him/herself</b>		
No	216	56.7
Yes	165	43.3

## 4.2 Knowledge about condoms

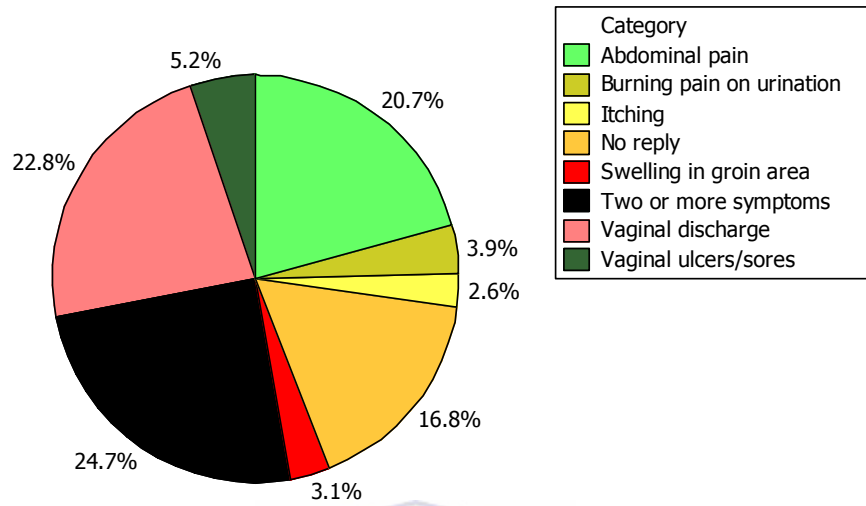
Table 4.3 presents the frequency distributions of the students' responses to questions about condoms. Over half (54.1%) of the students had heard of a male condom whilst only about a quarter (26.8%) had heard of a female condom. Over half (58.5%) knew of places to obtain male condoms whilst only 14.4% knew of places to buy female condoms.

**Table 4.3 Existence and availability of condoms (n=381)**

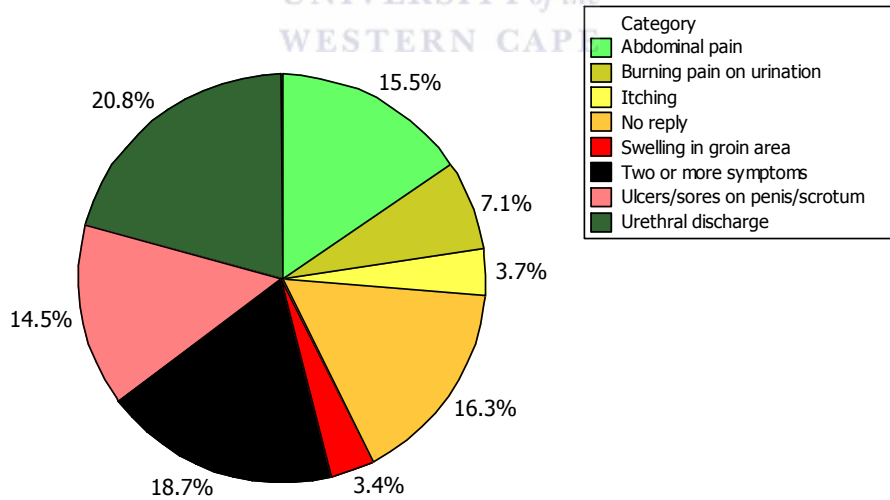
<b>Ever heard of male condom</b>	<b>Frequency</b>	<b>Percent</b>
Yes	206	54.1
No	167	43.8
Don't know	8	2.1
<b>Ever heard of female condom</b>		
No	264	69.3
Yes	102	26.8
Don't know	15	3.9
<b>Know of places to obtain male condoms</b>		
No	223	58.5
Yes	125	32.8
Don't know	33	8.7
<b>Know of places to obtain female condoms</b>		
No	287	75.3
Yes	55	14.4
Don't know	39	10.2

The proportions of students with knowledge of different STI symptoms are illustrated in Figure 4.1. About a quarter (24.7%) knew at least two STI symptoms in women, whilst about one fifth (22.8%) knew only about vaginal discharge or abdominal pain (20.7%) and 16.8% did not reply to the question. Less than 5% knew about vaginal ulcers/sores, burning pain on urination, swelling in groin area, itching, or other symptoms of STIs in women.

**(a) STI symptoms in women**



**(b) STI symptoms in men**



**Figure 4.1 Proportions of students with knowledge of STI symptoms**

Only about one fifth (20.8%) knew at least two STI symptoms in men or about urethral discharge only (18.7%). Less than one fifth knew about abdominal pain (15.5%) or ulcers/sores on penis/scrotum (14.5%). Relatively few students knew about burning pain on urination (7.1%) itching (3.7%) or swelling in groin area (3.4%) as male STI symptoms.

Table 4.4 presents the frequencies of correct answers concerning the students' knowledge about HIV transmission and prevention. Overall, over a half (56.9%) of the students provided correct responses. Over a half (55.9%) knew that HIV could not be transmitted by a mosquito bite (a commonly held myth) and about two thirds (66.9%) knew correctly that HIV could not be transmitted by eating a meal with someone who is infected. Similarly, about two thirds (66.9%) knew correctly that a pregnant woman can transmit HIV to her unborn child. Most of the students (80.6%) were aware that HIV could be transmitted by using a needle already used by someone else. Over two thirds (68.2%) of the students knew the ability of condoms when correctly used to prevent HIV. About two thirds (66.1%) also knew that the surest way to avoid transmission of HIV was to abstain from sexual intercourse and only just half (53.5%) knew that a long-term mutually monogamous relationship with a partner who had not been infected protected them from HIV infection. Just over a half (57.5%) of the students knew correctly that people may look healthy whilst infected by HIV and a similar proportion (53.0%) knew correctly that a pregnant woman can reduce the risk of transmission of HIV to her unborn child, e.g. by taking a dose of antiretroviral drugs.

**Table 4.4 Knowledge about HIV (n=381)**

<b>Knowledge</b>	<b>Number correct</b>	<b>% correct</b>
<b>HIV transmission:</b>		
Mosquito bite	213	55.9
Sharing a meal with infected person	255	66.9
Sharing a needle used by someone else	307	80.6
Pregnant women transmit HIV to unborn child	255	66.9
<b>HIV prevention:</b>		
Using a condom correctly	260	68.2
Having one uninfected partner	204	53.5
Abstaining from sexual intercourse	252	66.1
Possible for a healthy looking person to have HIV	219	57.5
Possible for pregnant woman to reduce HIV transmission	202	53.0
<b>Overall total</b>	<b>2167</b>	<b>56.9</b>

#### 4.3 HIV/AIDS: experience, attitudes and beliefs

Just over a half of the students (53.8%) had already had an HIV test. Of the 205 students who were tested, the majority (76.6%) did so voluntarily whilst 21.5% were forced. About two thirds (66.8%) found out the results of their HIV test (Table 4.5).

**Table 4.5 Experience of HIV testing**

<b>Experience</b>	<b>Frequency</b>	<b>Percent</b>
<b>Had an HIV test (n=381)</b>		
Yes	205	53.8
No	175	45.9
Don't know	1	0.3
<b>Voluntary or Forced (n=205)</b>		
Voluntary	157	76.6
Forced	44	21.5
No response	4	1.9
<b>Found out result of test (n=205)</b>		
Yes	137	66.8
No	68	33.2

Table 4.6 presents the frequencies of the responses concerning attitudes and behaviours about information sharing about HIV/AIDS and its prevention. Most of the students (86.6%) agreed that it was acceptable for HIV/AIDS to be discussed on the radio on the TV (81.6%) and it was right to educate people about prevention (83.5%). About three quarters (73.2%) had been advised about prevention by their parent/guardian, and about a half (54.1%) had talked with a friend about prevention.

**Table 4.6 Information sharing about HIV/AIDS and its prevention (n=381)**

<b>Information sharing</b>	<b>Frequency</b>	<b>Percent</b>
<b>Acceptable for AIDS to be discussed on radio</b>		
Agree	330	86.6
Disagree	29	7.6
Don't know	22	5.8
<b>Acceptable for AIDS to be discussed on TV</b>		
Agree	311	81.6
Disagree	43	11.3
Don't know	27	7.1
<b>It is right to educate people about prevention</b>		
Agree	318	83.5
Disagree	47	12.3
Don't know	16	4.2
<b>Parent/guardian has advised about prevention</b>		
Agree	279	73.2
Disagree	73	19.2
Don't know	29	7.6
<b>Have talked with a friend about prevention:</b>		
Agree	206	54.1
Disagree	128	33.6
Don't know	47	12.3

Table 4.7 presents the frequencies of responses concerning the students' attitudes towards HIV infected and AIDS patients.

**Table 4.7 Attitudes towards HIV infected and AIDS patients (n = 381)**

<b>Attitude</b>	<b>Frequency</b>	<b>Percent</b>
Willing to share a meal with a person who has HIV/AIDS		
Agree	211	55.4
Disagree	132	34.6
Don't know	38	10
Students with HIV should continue attending school		
Agree	233	61.2
Disagree	118	31
Don't know	30	7.9
Teachers with HIV should continue teaching		
Agree	226	59.3
Disagree	130	34.1
Don't know	25	6.6
Should remain a secret if a member of my family is infected		
Disagree	198	52
Agree	158	41.5
Don't know	25	6.6
Can buy food from a person with HIV		
Disagree	185	48.6
Agree	174	45.7
Don't know	22	5.8
Willing to care for relative with AIDS		
Agree	284	74.5
Disagree	79	20.7
Don't know	18	4.7

Over half of the students agreed that (a) they were willing to share a meal with a person who has HIV/AIDS (55.4%); (b) students with HIV who are not sick should continue attending school (61.2%); (c) teachers with HIV who are not sick should continue teaching (59.3%). Less than a



half (41.5%) agreed that it should remain a secret if a member of their family was infected and that they can buy food from a person with HIV (48.6%). About three quarters of the students (74.5%) agreed that they were willing to care for a relative with aids. The responses in Table 4.8 indicated that two thirds of the students (64.6%) agreed that they were willing to have an HIV test and over a half (59.1%) knew where to go for an HIV test.

**Table 4.8 Attitudes and knowledge of HIV tests (n=381)**

<b>Willing to have HIV test</b>			<b>Know where to go for HIV test</b>		
	<b>Frequency</b>	<b>Percent</b>		<b>Frequency</b>	<b>Percent</b>
Agree	246	64.6	Agree	225	59.1
Disagree	109	28.6	Disagree	84	22.0
Don't know	26	6.8	Don't know	72	18.9

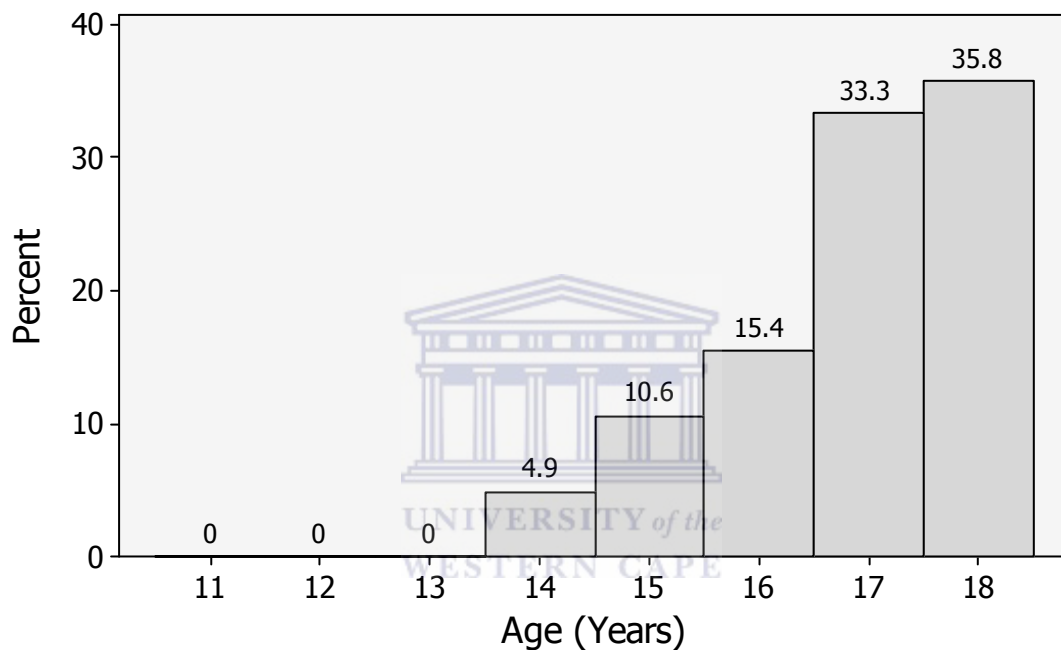
#### 4.4 Sexual behaviour

Table 4.9 cross-tabulates the gender of the students with their experience of sexual intercourse. One hundred and twenty three (32.2%) students constituting 68 males (17.8%) and 55 females (14.4%) had experienced sexual intercourse; however, gender and experience of sexual intercourse were not statistically associated ( $p = .081$ .)

**Table 4.9 Relationship between gender and sexual experience (n=381)**

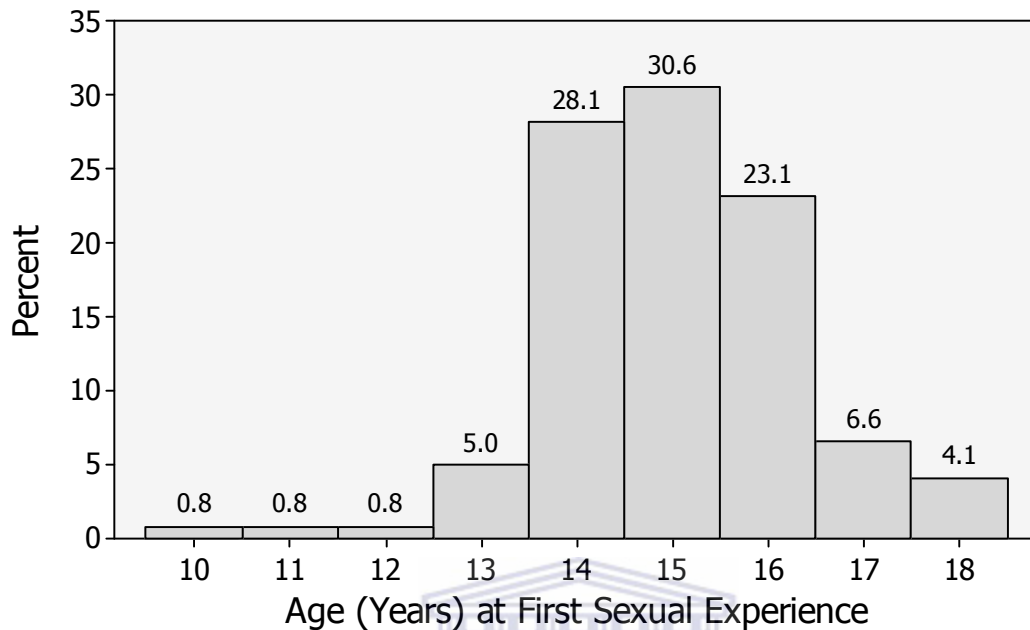
<b>Gender</b>		<b>Sexual intercourse</b>		<b>Total</b>
		<b>Yes</b>	<b>No</b>	
<b>Male</b>	Frequency	68	118	186
	% of Total	17.8%	31.0%	48.8%
<b>Female</b>	Frequency	55	140	195
	% of Total	14.4%	36.7%	51.2%

Figure 4.2 illustrates the proportion of the 123 students who reported that they had experienced sexual intercourse, which increased progressively with age from 14 (4.9%) to 18 years (35.8%). There was a statistical association between age and experience of sexual intercourse ( $p = .024$ ).



**Figure 4.2 Relationship between age and sexual experience**

The age at which the students first experienced sexual intercourse ranged from 10 to 18 years (Figure 4.3). 81.8% of the students reported that they had their first sexual experience between the ages of 14 and 16 with a median of 15.0 years. The mean age at first sexual experience was 15.06 years for males and 14.95 years for female students. A two sample t test indicated no significant difference between the mean ages of the 68 males and the 55 females at their first sexual experience ( $p = .638$ ).



**Figure 4.3 Distribution of ages at first sexual intercourse**

The frequency distributions of the reasons for the students having their first sexual intercourse are cross-tabulated with gender in Table 4.10. Over half of the 123 students (59.3%) who had sexual intercourse reported that their first experience was voluntary, whilst about one fifth (18.7%) had been persuaded with gifts, money, or other favours. 8.1% reported that they had been tricked, physically forced, or raped and 7.3% were convinced by their best friend. 4.1% were drunk when they experienced first sexual intercourse. It was not possible to perform a Chi Square test to determine if there was an association between gender and the reasons for first sexual intercourse because more than 50% of the frequencies in the cross-tabulation were less than 5.

**Table 4.10 Relationship between gender and reasons for first sexual intercourse (n=123)**

Reason for first sexual intercourse		Gender		
		Male	Female	Total
No response	Frequency	1	2	3
	% of Total	.8%	1.6%	2.4%
Willing	Frequency	51	22	73
	% of Total	41.5%	17.9%	59.3%
Persuaded with gifts/money/other favours	Frequency	4	19	23
	% of Total	3.3%	15.4%	18.7%
Tricked	Frequency	0	2	2
	% of Total	.0%	1.6%	1.6%
Physically forced	Frequency	0	2	2
	% of Total	.0%	1.6%	1.6%
Raped	Frequency	2	4	6
	% of Total	1.6%	3.3%	4.9%
Drunk	Frequency	4	1	5
	% of Total	3.3%	.8%	4.1%
Convinced by best friend	Frequency	6	3	9
	% of Total	4.9%	2.4%	7.3%

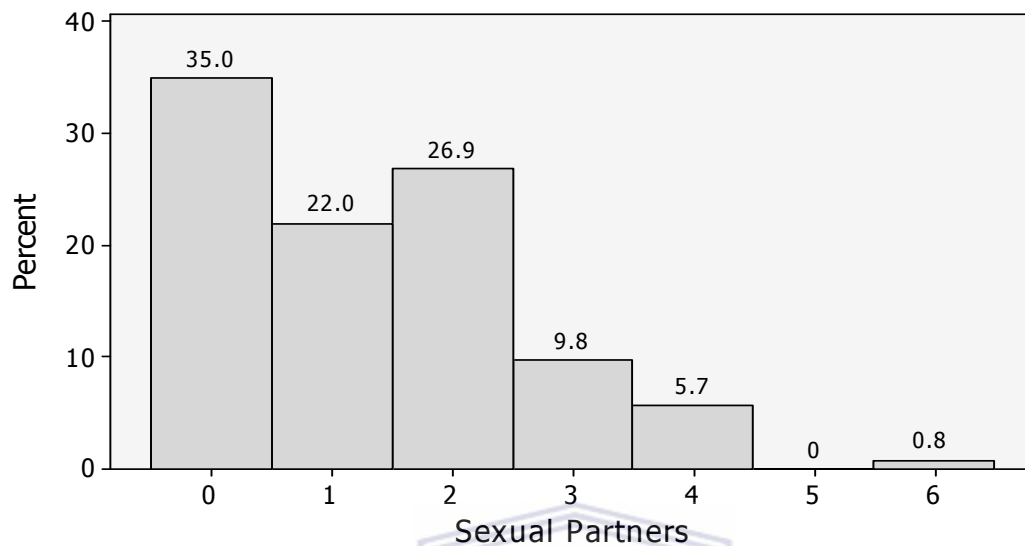
Of the 123 students who reported that they were sexually experienced about two thirds (65.0%) had experienced intercourse in the last six months (Table 4.11). A higher proportion of males (55.3%) than females (44.7%) had experienced sexual intercourse in the last six months.

**Table 4.11 Relationship between gender and sexual experience (n =123)**

Sexual intercourse in last six months		Gender		Total
		Male	Female	
No response	Frequency	3	2	5
	% of Total	2.4%	1.6%	4.1%
Yes	Frequency	43	37	80
	% of Total	35.0%	30.1%	65.0%
No	Frequency	22	13	35
	% of Total	17.9%	10.6%	28.5%
Don't know	Frequency	0	3	3
	% of Total	.0%	2.4%	2.4%
Total	Frequency	68	55	123
	% of Total	55.3%	44.7%	100.0%

A Chi-Square test was performed including the frequencies of those students who answered “Yes” or “No” and excluding those students who did not respond or did not know. There was no statistically significant association between gender and experience of sexual intercourse in the last 6 months ( $p = .365$ ).

A frequency distribution histogram to illustrate the number of sexual partners in the last six months reported by the 123 sexually experienced students is presented in Figure 4.4. Over one third (35.0%) reported that they had no sexual partners in the last six months. 22.0% reported that they had 1 sexual partner whilst 43% had multiple (2 to 6) sexual partners.



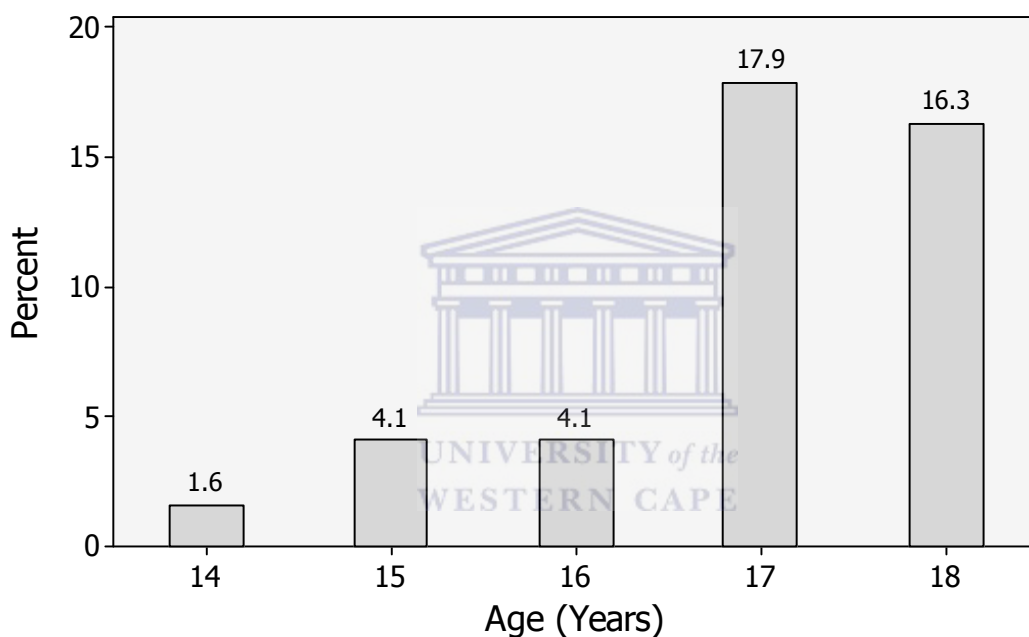
**Figure 4.4 Distribution of the number of sexual partners**

The results of a Chi-Square test on the cross-tabulation (Table 4.12) indicated no statistically significant association between gender and the number of sexual partners in the last 6 months ( $p = .398$ ).

**Table 4.12 Relationship between gender and number of sexual partners (n=123)**

No. of Partners		Gender		Total
		Male	Female	
0	Frequency	24	19	43
	% of Total	19.5%	15.4%	35.0%
1	Frequency	12	15	27
	% of Total	9.8%	12.2%	22.0%
2-6	Frequency	32	21	53
	% of Total	26.0%	17.1%	43.0%

Fifty four students, representing less than one half (43.9%) of the 123 who were sexually experienced had used a condom. The use of a condom was reported equally with respect to gender (27 males and 27 females). The frequency distribution histogram (Figure 4.5) indicated that the use of a condom was most frequent at age 17 (17.9%) and 18 (16.3%) but less frequent amongst 14-16 year olds.



**Figure 4.5 Distribution of the use of condoms with respect to age**

Only 30 students, representing about one quarter (24.4%) of the 123 who reported that they were sexually experienced had used a condom during their last intercourse. The last use of a condom was reported relatively equally with respect to gender (16 males and 14 females). The last use of condom use was most frequent (10.6%) at age 18 and least frequent (.8%) at age 14. Amongst the multiple answers provided in the questionnaire, the most frequent reason why a condom was not used was that it was not available (36.0%). Twenty nine percent of the students reported that

they or their partner did not like using condoms, whilst 14.0% could not afford to buy condoms. About one tenth (9.3%) did not know where to get condoms, whilst less than 5% did not think it was necessary, did not think of it, or did not know the reason why (Table 4.13)

**Table 4.13 Reasons why a condom was not used (n=123)**

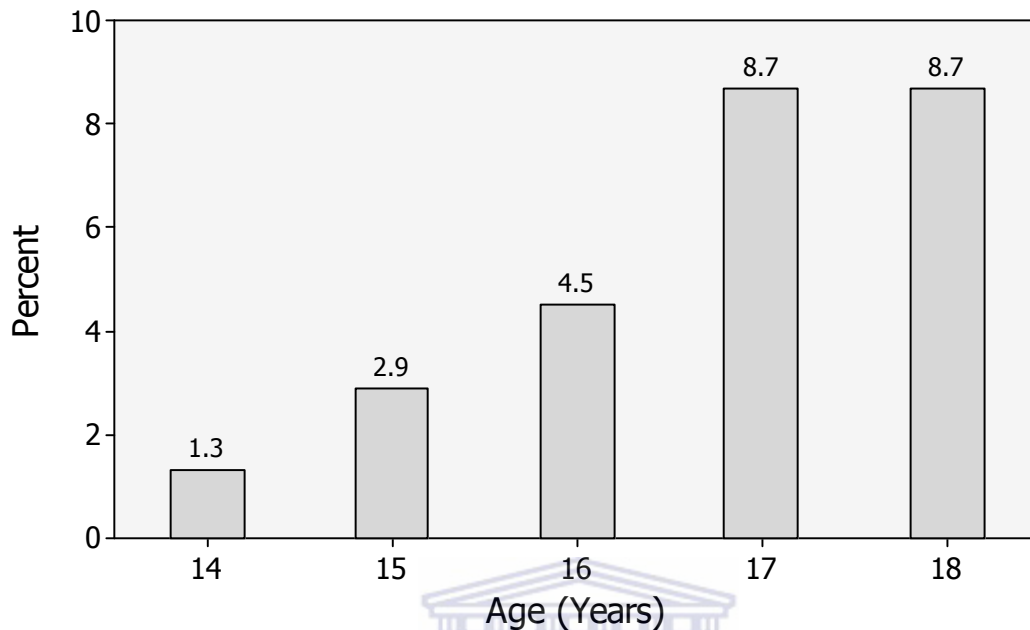
<b>Responses</b>	<b>Frequency</b>	<b>Percent</b>
It was not available	31	36.0
I don't like it	15	17.4
We could not afford to buy it	12	14.0
My partner does not like it	10	11.6
We did not know where to get it	8	9.3
We did not think it was necessary	4	4.7
We did not think of it	3	3.5
Don't know	3	3.5
Total	86	100.0

Over one half (58.0%) of the students had been circumcised. The results of a Chi-square test ( $p < .001$ ) indicated a statistically significant association between gender and circumcision. A higher proportion of circumcised students (34.1%) were males relative to females (23.9%).

#### **4.5 Alcohol and drug use**

About one quarter (26.1%) of the students had taken alcohol. 17.3% of the students took alcohol occasionally, 5.5% moderately, and 2.6% frequently. Figure 4.6 illustrates that the proportion of students taking alcohol increased progressively between the ages of 14 (13%) and 17-18 (8.7%). There was a statistical association between taking alcohol and age ( $p = .038$ ).





**Figure 4.6 Distribution of taking alcohol with respect to age**

About 14% of the students admitted that they took illicit drugs, of which 5.8% were male and 8.1% were female. The most frequent drug used by the students was marijuana (10.5%) followed by cocaine (2.9%) and heroine or marijuana and cocaine (.5%). Marijuana and cocaine were used by 14 to 18 year old students whilst heroine was only used by 18 year olds. Over half of the students (57.0%) did not have close relationships with peers/mates who drank alcohol, took drugs, or smoked cigarettes, of which most (32.3%) were female. About a quarter (25.5%) had a close relationship with peers/mates who took alcohol and 8.9% with peers/mates or used drugs. Less than 5% had peers/mates who did more than one of these activities. Most of the students who had close relationships with peers/mates who drank alcohol, took drugs, or smoked cigarettes were aged 16 (9.0%), 17 (12.0%) or 18 (11.7%).

Chi-Square tests were applied to determine if there were statistically significant associations between sexual behaviour and, taking alcohol as well sexual behaviour and using illicit drugs, excluding the frequencies of those students who did not reply. The cross-tabulation indicates that over a half (56.1%) of those who had not had sexual intercourse had also not taken alcohol. In contrast, 14.2% had experience of both sexual intercourse and taking alcohol. One student who had sexual intercourse did not respond to the question about taking alcohol therefore the total was 122 and not 123 (Table 4.14). There was a statistically significant association between having sexual intercourse and taking alcohol ( $p < .001$ ).

**Table 4.14 Relationship between sexual intercourse and taking alcohol**

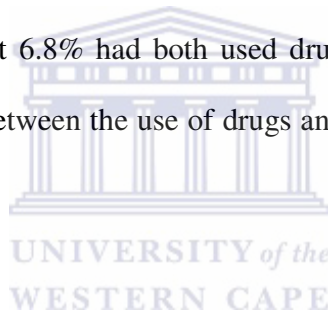
		<b>Do you take alcohol?</b>			
		<b>Yes</b>	<b>No</b>	<b>Total</b>	
<b>Have you ever had sexual intercourse?</b>	Yes	Frequency	54	68	122
		% of Total	14.2%	17.9%	32.1%
	No	Frequency	45	213	258
		% of Total	11.8%	56.1%	67.9%
<b>Total</b>	Frequency	99	281	380	
	% of Total	26.1%	73.9%	100.0%	
<b>P-value</b>		<0.001			

The cross-tabulation in Table 4.15 indicates that 34.2% of the sexually experienced students who had not used a condom had not taken alcohol, whilst 21.7% who had not used a condom had taken alcohol. There was no statistically significant association between the use of condoms and taking alcohol ( $p = .125$ ).

**Table 4.15 Relationship between using condoms and taking alcohol**

			<b>Do you take alcohol?</b>		
			<b>Yes</b>	<b>No</b>	<b>Total</b>
<b>Have you ever used a condom?</b>	Yes	Frequency	28	25	53
		% of Total	23.3%	20.8%	44.2%
	No	Frequency	26	41	67
		% of Total	21.7%	34.2%	55.8%
Total	Frequency	54	66	120	
	% of Total	45.0%	55.0%	100.0%	
P-value			0.125		

The cross-tabulation in Table 4.16 indicates that 66.8% of the students had neither used drugs nor had they taken alcohol, whilst 6.8% had both used drugs and taken alcohol. There was a statistical significant association between the use of drugs and taking alcohol as indicated by a p value of < .001.



**Table 4.16 Relationship between the use of drugs and taking alcohol**

			<b>Do you take alcohol?</b>		
			<b>Yes</b>	<b>No</b>	<b>Total</b>
<b>Have you ever used drugs?</b>	Yes	Frequency	26	27	53
		% of Total	6.8%	7.1%	13.9%
	No	Frequency	73	254	327
		% of Total	19.2%	66.8%	86.1%
Total	Frequency	99	281	380	
	% of Total	26.1%	73.9%	100.0%	
P-value			<0.001		

The cross-tabulation in Table 4.17 indicates that more than half (60.9%) of those who had not had sexual intercourse had also not used drugs. In contrast, 7.1% had experience of both sexual

intercourse and using drugs. There was a statistically significant association between having sexual intercourse and using drugs ( $p = .002$ ).

**Table 4.17 Relationship between sexual intercourse and using drugs**

		Have you ever used drugs?			
		Yes	No	Total	
<b>Have you ever had sexual intercourse?</b>	Yes	Frequency	27	96	123
		% of Total	7.1%	25.2%	32.3%
	No	Frequency	26	232	258
		% of Total	6.8%	60.9%	67.7%
Total		Frequency	53	328	381
		% of Total	13.9%	86.1%	100.0%
P-value			0.002		

The cross-tabulation in Table 4.18 shows that 43.0% of the sexually experienced students who had not used a condom had also not used drugs, whilst 12.4% who had not used a condom had used drugs. There was no statistically significant association between the use of condoms and using drugs ( $p = .983$ ).

**Table 4.18 Relationship between using condoms and using drugs**

		Have you ever used drugs?			
		Yes	No	Total	
<b>Have you ever used a condom?</b>	Yes	Frequency	12	42	54
		% of Total	9.9%	34.7%	44.6%
	No	Frequency	15	52	67
		% of Total	12.4%	43.0%	55.4%
Total		Frequency	27	94	121
		% of Total	22.3%	77.7%	100.0%
P-value			0.983		

The results of the statistical analysis of the study were presented in this chapter. The findings were presented and discussed under five broad headings: socio-demographic background, knowledge of condom, HIV/AIDS: experience, attitudes and beliefs, sexual behaviour and alcohol and drug use.



## Chapter 5

### Discussion

The key findings of this study in relation to the objectives are discussed. The findings are compared to similar studies found in the literature. This chapter includes knowledge about HIV and STIs; sources of information to increase knowledge; risky sexual behaviour; reasons for initiating sexual intercourse; and limitations of the study.

#### 5.1 Knowledge about HIV

Accurate knowledge of the modes of transmission of HIV and prevention strategies is perceived by educators to promote behavioural changes and reduce the HIV infection rate amongst adolescents in Nigeria (Bankole and Mabekoje, 2008). Nevertheless, in practice, awareness and knowledge does not axiomatically imply the avoidance of risky sexual behaviour (Akande, 1994).

Surveys in 40 countries carried out over a decade ago indicated that less than 50% of young people aged 15 to 24 years knew about how HIV was transmitted (UNICEF, 2002). The results of this study, in contrast, indicated that more than 50% of the participants knew how HIV was transmitted. A survey carried out by Oyo-Ita et al. (2005) on students at three schools in Calabar, Nigeria, similarly found that over 50% knew how HIV was transmitted. Additionally, Menda (2006) found that 86% of 15-19 year old girls at 3 schools in Petauke, Zambia knew how HIV was transmitted. The proportion of students who know about HIV transmission in West Africa appear to have increased somewhat in the decade since the UNICEF (2002) survey was conducted. However, the UNICEF survey also found that only about 20% of young people knew about correct HIV protection strategies. Similarly, Menda (2006) found only 23% of the girls at

3 schools in Zambia had a high level of knowledge on HIV prevention. Menda's findings were similar to those in other African countries such as Cameroon, Central African Republic, Equatorial Guinea, Lesotho, Sierra Leone and Mozambique, where more than 80% of young women aged 15 to 24 years did not have sufficient general knowledge about preventing HIV infection (UNAIDS, 2001). In comparison, this study reveals that the knowledge of HIV prevention was much better. Over two thirds of the respondents knew how to prevent HIV by using condoms or avoiding sexual intercourse. The proportion of students who knew about HIV prevention in this study was also greater than those reported at three schools in Calabar, Nigeria, where only a few adolescents knew that using a condom (17.6%) and keeping one sexual partner (2.6%) could prevent HIV transmission (Oyo-Ita et al., 2005). The trend was similar with respect to knowledge of HIV carriers. The majority (57.5%) of the students in this study knew that it was possible for a healthy looking person to carry HIV, whereas Oyo-Ita et al. (2005) found that only 13.4% of the students they surveyed knew that HIV carriers might look normal.

The level of general knowledge of HIV/AIDS testing among adolescents in Nigeria is relatively high (Oyo-Ita et al., 2005). This was reflected by the finding of this study which shows that 64.6% of the students agreed that they were willing to have an HIV test and over 59.1% knew where to go for an HIV test. Over half of the students had already had an HIV test and the majority did it voluntarily. It is possible that the relatively higher proportion of students in this study who knew about HIV transmission and prevention were linked to the implementation of educational programs in the last decade. Educators in Nigeria are expected to play a major role in the provision of information to promote awareness, leading to increased knowledge and behavioural changes amongst adolescents, and thereby reduce the HIV infection rate (Bankole

and Mabekoje, 2008). However, there are many other sources of information which the students in this study could have used to improve their knowledge of HIV/AIDS, as is shown next.

### **5.1.1 Sources of information to increase knowledge**

Adolescents potentially have access to many sources of information to increase their knowledge of STIs, especially HIV/AIDS, including their family and friends, the mass media, and formal health education programs in clinics, hospitals, and schools. Restricted access to such information may, however, explain the limited knowledge of many adolescents, particularly in countries where sexual knowledge and behaviour is shaped by traditional African cultures (Robinson, 2004; Wodi, 2005).

The importance of the mass media and health education as a source of information about HIV/AIDS in Nigeria was evident from the results of this study. Most of the participants agreed that it was acceptable for the topic to be discussed on the radio and TV and it was right to educate people about prevention. Numerous previous studies have been conducted to determine which sources of information about HIV/AIDS are most important to African adolescents with conflicting results. Menda (2006) reported that 31% of schoolgirls in Petauke, Zambia, used magazines/pamphlets as their main source of information, whilst mothers were their main source of knowledge in only 7% of cases. Similarly, Oyo-Ita et al., (2005) recorded that the main source of information on HIV/AIDS of the school-going adolescents in Calabar, Nigeria was the mass media and parents on the other hand were the least used source of information. In contrast, about three quarters of the participants in this study had been advised about HIV prevention by their parent/guardian and 54.1% had discussed it with their peers. These results are not consistent with the view that children in West Africa turn to other sources of information because they feel



reluctant or embarrassed to discuss sexual matters with their parents and peers (Anjejo et al., 2007). The reluctance that parents have in discussing sexual matters with adolescents is based on the assumption in the current study that it may result in increased sexual activity, as the adolescents become more aware and knowledgeable about sexual activity. Research has disputed this assumption. It has been found that appropriate information given to adolescents by parents may make them delay their sexual activity and later protect themselves against unwanted pregnancy, STIs and HIV infection (UNICEF, 2002; Pettifor, 2004; Anjejo et al., 2007). It has been suggested that a strong and functional family background, characterized by uninhibited communication, linked to formal health promotion programs will lead to less risky sexual behaviour amongst Nigerian adolescents (Myubi et al., 2010).

### **5.1.2 Knowledge of STI symptoms**

Students in this study appeared to demonstrate relatively greater knowledge of HIV transmission than adolescents in other areas of Nigeria, but their knowledge about STI symptoms was relatively low. Although accurate knowledge alone is insufficient to produce changes in attitude and behaviour, it is a necessary component to developing the motivation to change behaviour (Klanger, et al., 1993). About a quarter (24.7%) knew at least two STI symptom in women and only about one fifth (20.8%) knew at least two STI symptom in men. Knowledge of STI symptoms in women was poor – less than 5% knew about of such symptoms in females as vaginal ulcers/sores, burning pain on urination, swelling in the groin area or itching. The participants' general lack of knowledge about STIs is consistent with the results of a previous survey in Nigeria. The National Population Commission (1999) reported that over 37% of women and 19% of men aged 15-19 in a sample of adolescents aged 15 to 19 years old had no

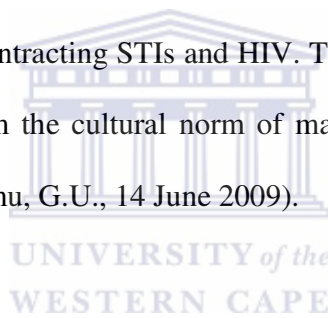
knowledge whatsoever of STIs. Limited knowledge of STIs amongst adolescents is a serious issue, leading to high levels of STI infection in Nigeria. For example, Brabin (1995) reported that at the time of his study, 8.2% of adolescents had chlamydial infections and 6.6 percent, trichomoniasis. Overall, 16.5 percent had some kind of STI including HIV infection. Results from some African countries have also revealed poor knowledge of STI symptoms amongst adolescents. Mafany and Nasah (1990) reported that only 16.1% of the secondary school students in their study in Cameroon could name any one common STI and give its sign or symptom. In a more recent study in Tanzania, Mwambete and Mtaturu (2006) reported that 11.5% of female and 14.5% of male secondary school students accurately described some symptoms associated with STI. The poor knowledge of STI symptoms amongst the study participants is a concern because some STIs cause a breach in the genital mucosa thus facilitating the transmission of HIV (Moses, et al., 1994). Interventions to increase the knowledge of STI symptoms amongst adolescents in Bekwarra is worthwhile, to alert them to seek early treatment and ultimately reduce the transmission of HIV.

## **5.2 Risky sexual behaviour**

Risky sexual behaviour amongst adolescents are discussed with respect to (1) the proportion of adolescents who have experienced sexual intercourse; (2) the age of initiation of sexual intercourse; (3) the reasons for initiating sexual intercourse; (4) multiple partners and (5) the use of condoms.

### **5.2.1 Proportion who experienced sexual intercourse**

About one third of the students who participated in this study had experienced sexual intercourse, a similar proportion to that recorded in other studies across Nigeria (Adinma et al., 1994; Morhason-Bello et al, 2008; Isiugo-Abanihe and Oyediran, 2004; Odujinrin, 1991), in the United States (MSNBC, 2005), and in 24 European countries (Godeau et al., 2008). In most countries the proportion of adolescents who have experienced sexual intercourse is around one third or less, and the results of this study reflected the national and international norms. The high proportion of adolescents in this study found to be engaging in sexual activities at relatively young age is of concern. Since many of them may not be practising safe sex consistently, they would increase their chances of contracting STIs and HIV. This result supports the assertion that adolescents are turning away from the cultural norm of maintaining virginity before marriage (Personal communication, Dr Ntamu, G.U., 14 June 2009).

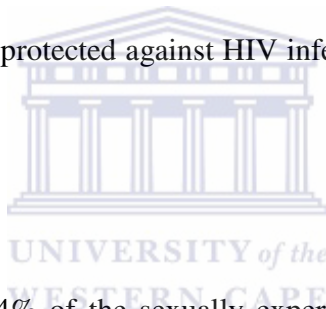


### **5.2.2 Early sexual debut**

The majority of participants in this study had their first sexual experience between the ages of 14 and 16 with a median age of 15. The median age of sexual initiation in Bekwarra, from the present study, was lower than that in other states of Nigeria (Uthman 2008). This finding indicates that adolescents in Bekwarra are becoming more sexually liberated and are increasingly engaging in sex at an early age. This is possibly related to local community contextual characteristics including socio-economic status and educational attainment. If adolescents defer sexual activities until they are more mature, they would be in a better position to act more responsibly to protect their health. This finding indicates that intensive programs to encourage adolescents to postpone sexual activity are desirable.

### **5.2.3 Multiple partners**

Twenty two percent of the sexually experienced participants in this study reported that they had one sexual partner whilst 43% had multiple (2 to 6) sexual partners in the last six months. In comparison, Odujinrin (1991) in a survey of students at 950 secondary schools in Lagos, Nigeria, demonstrated that a smaller proportion (33.7%) had multiple sexual partners. Although cultural disparity and location of study sites could account for this difference, the increase in the number of adolescents having multiple sexual partners is worrisome. Having multiple partners is considered to be risky sexual behaviour because of the increased risk of STIs including HIV infection. An additional risk profile is that only about a half of the students in this study knew that having one uninfected partner protected against HIV infection, implying a call for improved education.



### **5.2.4 Use of condoms**

This study revealed that only 24.4% of the sexually experienced participants used a condom during their last sexual intercourse. Similarly, Odujinrin (1991) recorded a similar proportion (20.3%) of secondary school students in Lagos used condoms. A survey of adolescent girls in Benin City showed that 26.9% of them used condoms regularly (Unuigbe and Ogbeide, 1999). In the current study, there was no statistically significant association between the use of condoms, gender, and age. However the small sample size may have compromised the results of the Chi Square test. Another survey (Araoye and Fakeye, 1998) revealed a much higher level of use of condoms. Among a sample of sexually experienced adolescents in Nigeria, 72% of males and 81% percent of females reported that they used contraception. Males were most likely (43%) to

have used condoms than females (31%). It is evident that the proportion of adolescents who use condoms in Nigeria may vary from sample to sample.

The Nigeria Demographic and Health Survey (NDHS) conducted in 2003 identified some of the factors associated with condom use amongst male adolescents in Nigeria. The survey was based on a national representative sample covering 7,864 households located in urban and rural settings. The level of condom use amongst adolescent males was generally low. Only 30.8% of unmarried sexually experienced 15-19 year males reported using a condom during their last sex, comparable to 24.4% found in this survey. The NDHS survey indicated that condom use was highest among urban dwellers than those residing in the rural areas. 54.1% of urban dwellers reported using condoms in their last sex compared with 27.6% of those in rural areas. There were regional differences in condom use. More respondents in the South reported condom use than those in the North, e.g., 40% in the southwest region used condom at first sex compared with 8.2% in the northeast region. Condom use was also associated with higher levels of education, better access to media through newspapers, television and radio and higher socio-economic status. The report suggest that adolescents in the highest quintile of the wealth index (65.2% who used a condom at last sex) may know more about the deleterious consequences of unprotected sex than those in the lowest quartile (14.8% who used a condom at last sex). In addition, it is more likely that communication between parents and children on reproductive health matters was better amongst those in the higher wealth index.

Comparatively, condom use amongst adolescents in Nigeria is generally less than that in Europe. A survey of the use of contraceptives at last intercourse among teenagers in 24 countries in Europe revealed that condom use was the most frequent method of contraception. Condom use ranged from 52.7% in Sweden to 89.2% in Greece (Godeau et al., 2008). This study has revealed

that the proportion of school-going adolescents in Bekwarra having unprotected sex is high, and calls for health education and other preventive measures to address this behaviour.

### **5.3 Reasons for initiating sexual intercourse**

There were several reasons for initiating sexual intercourse.

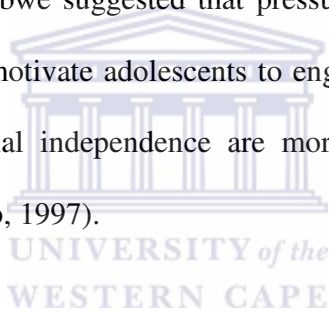
#### **5.3.1 Willingness for sexual intercourse**

In this study, willingness for sexual intercourse was the most common reason reported by 59.3% of the participants (41.5% of males and 17.9% of females) for initiating it. The reasons why there was a difference between the proportions of males and females who were willing to initiate sexual intercourse was not ascertained in this study. However, previous studies have indicated that adolescent females, unlike males, are more likely to delay intercourse until they are comfortable with when, where, and with whom it occurs (Skinner et al., 2008). A study conducted in Ghana (Kumi-Kyereme et al., 2007) concluded that adolescent females were generally less willing than males to initiate sex because of the fear of potential consequences.

Webb (1997) working in Zambia suggested that sexual activities among boys were often initiated by peer pressure, whilst among girls the commonest motivation was the reception of money or gifts from boys or older males. A substantial proportion of the participants in this study (68.8%) had not experienced sexual intercourse, possibly because they were unwilling. There are many reasons why adolescents consciously abstain from sex, including fear of STIs and pregnancy or due to religious/moral beliefs. Lack of opportunity is rarely the reason (MSNBC, 2005). This study, however, did not ascertain the reasons why a large proportion of the participants had not experienced sexual intercourse.

### **5.3.2 Transactional sex**

The second most common reason why the participants admitted to initiating sexual intercourse was that they were persuaded to have sex for gifts/money/other favours, reported by 18.7% of the participants (3.3% of males and 17.9% females). The proportions are less than found in a previous survey of sexually experienced teens in Nigeria (National Population Commission, 1999) in which 13% of males and 27% of females reported exchanging money, gifts, or favours for sex in the previous 12 months. Other studies conducted in Cameroon, Ghana, Kenya, Nigeria, Sierra Leone, Uganda, and Zimbabwe suggested that pressure to obtain luxury personal items and socio-economic factors may motivate adolescents to engage in transactional sex (Chatterji, 2004). Females who lack financial independence are more likely to be persuaded to have transactional sex than males (Webb, 1997).



### **5.3.3 Sexual violence or coercion**

The third most common reason in this study for initiating intercourse was sexual violence or coercion, reported by 8.1% of the participants. This proportion was however, less than found in other studies in Nigeria. Rape is not uncommon amongst Nigerian adolescents. A study of 330 female rape victims in Benin City, Nigeria, reported that a majority of rape victims were females ages 13 to 19; 48 % were under age 13. In another study, 75 % of rape victims were aged 13 to 19 (Omorodion and Olusanya, 1998). Ajuwon et al. (2001) reported that 8% of in-school adolescents in Ibadan had been raped. Slap et al. (2003) reported that 11% of secondary school students aged 12-21 in Plateau State had experienced forced sexual intercourse. Sexual violence and coercion of women have been reported in many other studies conducted in Africa reflecting

deep seated sociological and psychological problems regarding female status which need to be addressed (Wodi, 2005; Kumi-Kyereme et al., 2007). There is a very strong argument to implement more intervention strategies to prevent transactional sex and sexual violence due to its implications for increasing HIV transmission in Africa (Dunkle et al., 2004).

#### **5.3.4 Peer pressure**

Peer pressure is a very serious issue to some teenagers which may lead to early sexual intercourse. Some adolescents who are not willing to have casual sex may feel that they are considered weak or abnormal by their peers (Miller, 1989). Peer pressure, however, was found to be only the fourth most common reason for initiating sexual intercourse in this study. Only 7.3% of the students admitted that they were convinced by a friend. In Westernized cultures, however, conforming to peer norms and perceiving that peers are more sexually active appears to be a more common reason for premature experience of sexual intercourse (Ladin et al., 2006; Skinner et al., 2008). Webb (1997) based on data from Zambia, suggested that among boys, sexual activities are often motivated by peer pressure. The conclusions of this study were, however, that most of the participants initiated sex willingly.

#### **5.3.5 Alcohol and drug use**

Alcohol abuse was not identified as a very important reason for initiating sex in this study. Only 26.0% of the students had ever taken alcohol. The least common reason for initiating sexual intercourse, admitted by 4.1% of the participants, was that they were drunk. Jessor's (1991) general conceptual framework identified alcohol abuse as a factor underlying risky adolescent behaviour. In addition alcohol abuse has been linked to risky sexual behaviour (Skinner et al., 2008). Excessive alcohol consumption may be used by adolescents as an excuse for engaging in



socially unacceptable behaviour, including sexual assault (Abbey et al. 1994). The current study revealed that about a quarter (26.0%) of the students in this study had taken alcohol and only 14% had used illicit drugs.

Nevertheless the incidence of alcohol taking and drug use recorded in this study is of serious concern. Statistically significant associations were found between the proportion of students who were sexually experienced, and those who took alcohol and used drugs, and those who associated with peers that took alcohol and used drugs. This study has thus shown that peer pressure is a contributory factor to drug and alcohol use among adolescents. There is an indication therefore that the promotion of reduced drinking and drug abuse amongst peer-groups of adolescents in Bekwarra may be an appropriate strategy to limit their levels of risky sexual behaviour.

#### **5.4 Limitations**

External validity is the extent to which information can be extrapolated or generalized to situations and individuals outside the boundaries of a specific study (Stangor, 2007). External validity for this study was ensured through the use of random sampling whereby each member of the selected school going age group student population in Bekwarra had an equal probability of being sampled. The results of this study are however not generalizable to out of school adolescents and adolescent outside Bekwarra. The conclusions may have local significance but may not have any external validity with respect to the rest of Nigeria.

In this survey, 430 questionnaires that were distributed but only 381 questionnaires were used for the analysis because they had no missing values. There is no fixed standard for an acceptable

response rate but it is generally agreed that bias is likely to occur in health related questionnaire surveys if the response rate is below 80% (McColl et al., 2001). The response rate of 88% in this survey was therefore considered to be acceptable. In addition, the absence of students when the questionnaire was distributed could be a limitation, since the absent students may have represented a group of individuals who would answer the questions differently to those who participated (Fraenkel and Wallen, 2007).



## Chapter 6

### Conclusion And Recommendations

#### 6.1 Conclusion

The design of effective educational programs to promote responsible sexual behaviour and reduce the epidemic of HIV and other STI infections in Nigeria requires better understanding of the risky sexual activities of adolescents and the factors influencing these activities. Previous research has shown to vary geographically from one region to another, with respect to numerous background, social, and environmental factors including education, socio-economic status, and religion. Small studies in a restricted geographical area, such as this one are therefore essential to explore local issues and needs. This study is the first of its kind in Bekwarra to provide a local insight into adolescents' risky behaviour and knowledge of STIs, specifically HIV infection. The findings confirmed the presence of relatively high levels of risky sexual activity amongst school going adolescents in Bekwarra, consistent with the rest of Nigeria. However, the age of initiation of sex is relatively low in Bekwarra compared to elsewhere. The results also indicate that a high proportion of the adolescents in Bekwarra engage in risky sexual behaviour by not using a condom to protect themselves from infection with STIs and prevent unwanted pregnancy. Their level of knowledge about HIV transmission and prevention was however better than that found in other surveys. It is possible that the relatively higher levels of knowledge were linked to the implementation of educational programs in the last decade.

Most students in this study were found to obtain information about sexual health from the mass media or their parents; however the high level of risky sexual behaviour reported by the students

indicated that access to such information is insufficient to change their behaviour. Interventions should ideally place less emphasis on the risk and danger of sexual behaviour and highlight the more positive aspects of the healthy development of young people in a safe and encouraging environment (Michaud, 2006). More emphasis should be placed on promoting the factors that prevent risk adolescent behaviour (Jessor, 1991) rather than emphasizing the deleterious outcomes of the risk factors.

There appears to be a relatively low incidence of other risky activities, such as coerced sex and rape, and substance and alcohol abuse among school going adolescents in Bekwarra, relative to other parts of Nigeria, but this is not a reason for complacency. This may be explained by the presence of communal moral codes and institutions like the age grades which exert considerable modulating effect on social behaviour. A statistical association between sexual activity and the use of alcohol and drugs was identified. Therefore, reducing drinking and drug abuse amongst the adolescents in Bekwarra may be an appropriate strategy to reduce their levels of risky sexual behaviour.

## **6.2 Recommendations**

The following recommendations are made based on the findings of this study:

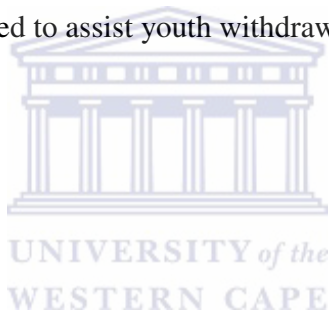
1. In view of the statistical association between increasing age and experience of sexual intercourse and other risky behaviour including alcohol and drug use, interventions to stop the spread of HIV should ideally start before the age of 15 (the median age of sexual initiation in Bekwarra).
2. The education authority should integrate HIV/AIDS education in the school curriculum.

Prevention of HIV/STIs should constitute a major part of the health education curriculum currently being taught in secondary schools.

3. Health education teachers should be trained and encouraged to constantly update their skills on how to sensitively deliver sex education messages to adolescents. Regular in-service workshops should be organised for teachers and appropriate incentives offered to encourage participation.
4. Information, education and communication (IEC) materials on HIV/STIs prevention should be provided to all schools in the local government area. These materials may be displayed in the school libraries and students should be encouraged to use them.
5. The subject of HIV/AIDS control should be made a permanent agenda for discussion during PTA meetings. This would allow free exchange of information between parents and teachers on how to approach the sensitive issue of sex/HIV/AIDS education.
6. School authorities should be encouraged to plan activities for students that incorporate HIV/AIDS education. These may include interschool debates, skills shows, drama and story time. The Local Government Office should make budgetary provisions for prizes to be awarded to outstanding students. This would serve as an incentive for students to update their knowledge.
7. There should be a general change of approach towards the issue of discussing sexuality in Bekwarra. Various stakeholders including the traditional, education and health authorities should encourage adolescents to continue to embrace old customs that are health-preserving such as promotion of virginity before marriage.
8. Efforts should be made to strengthen family ties so that parents can confidently discuss sex education with their adolescent children. This task may effectively be promoted and

facilitated by the Department of Women and Children Affairs in the local government council.

9. Traditional institutions like the age grades which exert considerable influence on their members should be encouraged to promote the avoidance of risky behaviour that can result in risky sexual behaviour.
10. Condoms should be made available, accessible and affordable to those who desire to use them
11. The local government council should consider launching a campaign to discourage risky sexual behaviour, recreational drug use and alcohol abuse among adolescents. Counsellors should be trained to assist youth withdrawing from addictive behaviour.



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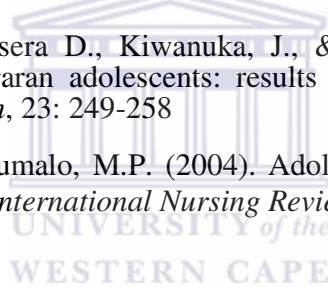
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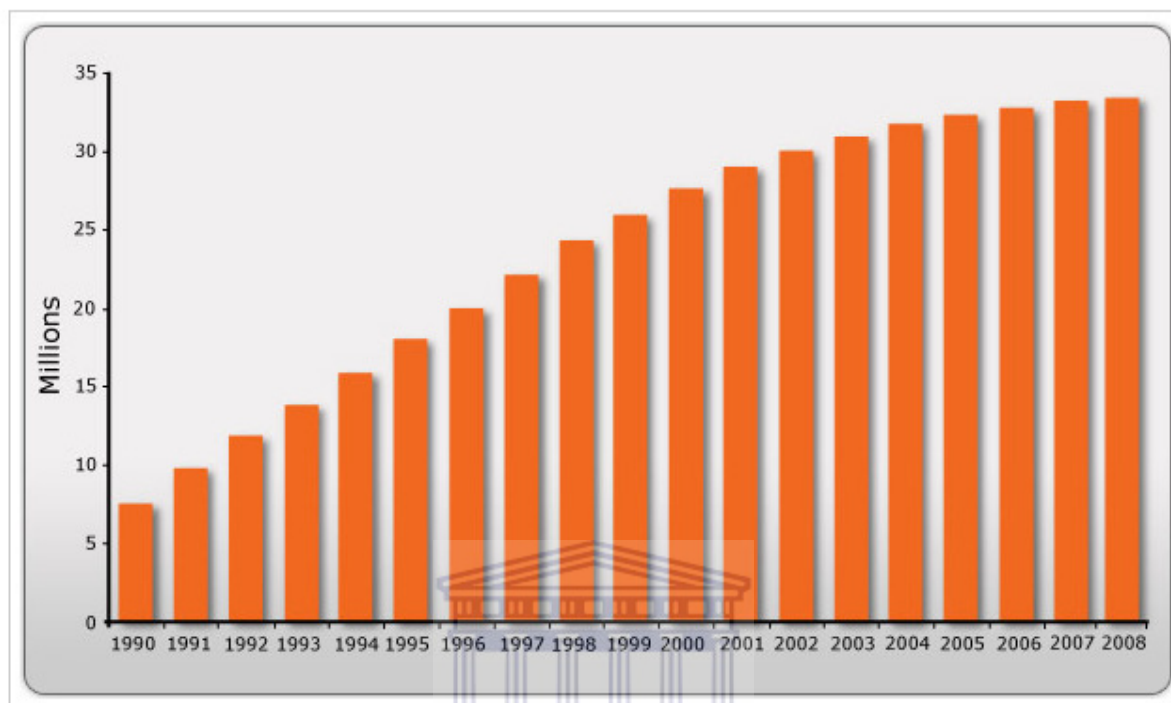
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## Appendix 1

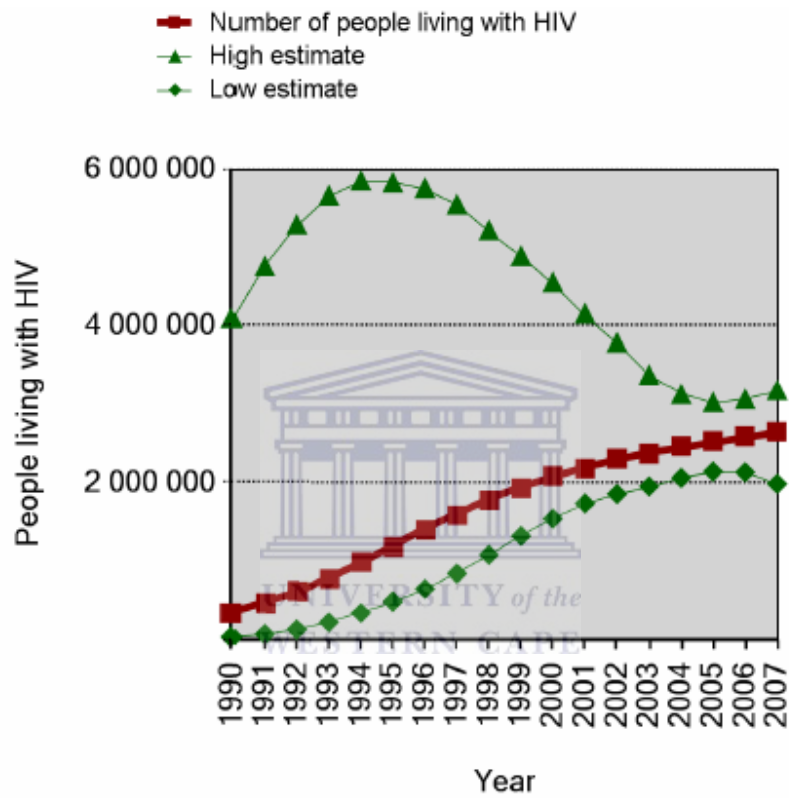


Source: <http://www.avert.org/worldstats.htm>

**Figure A1.1 Number of people living with HIV/AIDS**

**Table A1.1 Children and adults living with HIV/AIDS in 2008**

Region	Millions	Percent
Sub-Saharan Africa	22.4	67.0
South and South-East Asia	3.8	11.4
Latin America	2.0	6.0
Eastern Europe & Central Asia	1.5	4.5
North America	1.4	4.2
Western & Central Europe	0.85	2.5
East Asia	0.85	2.5
North Africa & Middle East	0.31	0.9
Caribbean	0.24	0.7
Oceania	0.06	0.2
Global Total	33.4	100.0



Source: WHO (2008)

Figure A1.2 Estimated numbers of people living with HIV/AIDS, 1990-2008



**Figure A1.3 Location of Bekwarra in Cross River State, Nigeria**



## Appendix 2: Questionnaire

### Knowledge of and attitudes towards HIV and risky sexual behaviour amongst adolescent secondary school students in Bekwarra, Nigeria.

01 QUESTIONNAIRE IDENTIFICATION NUMBER

--	--	--

02 TOWN -----

03 SCHOOL-----

This is a research study being conducted by a postgraduate student. We are trying to find out what young people in this school know about HIV and other infections you get from having sex. This study has questions about your sexual behaviour and what you think about sexually transmitted infections (STIs), HIV, AIDS, and condom use. The results from this study will contribute to the development of new programmes to protect young people's health.

We will not ask your name and will not record it anywhere. We will not tell anyone else your answers to the questions, so please answer the questions honestly. Participation in this study is voluntary. You will not be paid for taking part. We are doing this study with young people between the ages of 14 and 18 years.

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## SECTION 1: SOCIO-DEMOGRAPHIC INFORMATION

1. SEX: Tick the correct box below

- Male
- Female

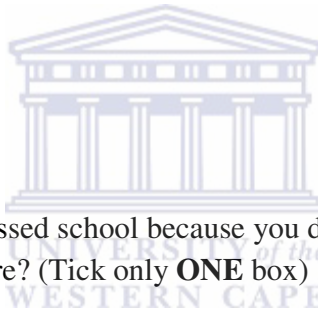
2. When were you born?..... (YEAR BORN).

3. How old are you.....years (AGE IN NUMBERS).

4. How many total years of schooling (including primary education) have you completed up till now? .....years (IN NUMBERS)

5. Who pays your school fees? (Tick all that apply to you)

- Mother
- Father
- Sex partner
- Government scholarship
- I pay them myself
- Don't know



6. How often, if at all, have you missed school because you did not have enough money for school fees, lunch money or bus fare? (Tick only **ONE** box)

- Very often
- Often
- Sometimes
- Never
- Don't know

7. Do you work to earn money for yourself?

- Yes
- No

8. What is your religion? (Tick only **ONE** box)

- Christianity
- Traditional religion
- Islam
- No religion
- Don't know

9. Is one or both of your parents still alive? (Tick only **ONE** box)

- Yes both parents
- Yes mother alone
- Yes father alone
- None

10. Which of the following best describes with whom you're living with now? (Tick **ALL** that apply to you)

- Living with both parents
- Mother only
- Grandparent(s)
- Brother above 18 years old
- Sister above 18 years old
- Brother below 18 years old
- Sister below 18 years old
- Aunt
- Uncle
- Neighbour
- Other. Name the relationship.....



**SECTION 2: SEXUAL KNOWLEDGE**

11. Have you ever *heard* of a male condom?

- Yes
- No
- Don't know

12. Have you *heard* of the female condom?

- Yes
- No
- Don't know

13. Do you know of places from which you can obtain male condoms?

- Yes
- No
- Don't know

14. Do you know of places from which you can obtain female condoms?

- Yes
- No

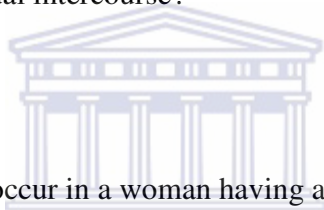
- Don't know

15. Which places or persons do you know where you can obtain male condoms? (Tick **ALL** that apply to you)

- Shop
- Chemist/pharmacy
- Market
- Clinic
- Hospital
- Family planning Centre
- Bar/guest house/hotel
- Peer educator
- Friend
- Other (Specify).....

16. Have you ever heard of sexually transmitted infections (**STIs**); diseases that can be passed from person to person through sexual intercourse?

- Yes
- No
- Don't know



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17. Which of these symptoms can occur in a woman having an STI? (Tick **ALL** that apply)

- Abdominal pain
- Discharge from the vagina
- Vaginal ulcers/sores
- Burning pain on urination
- Swelling in the groin area
- Itching
- Other (Specify).....

18. Which of these symptoms can occur in a man having an STI? (Tick **ALL** that apply)

- Abdominal pain
- Urethral discharge
- Ulcers/sores on the penis/scrotum
- Burning pain on urination
- Swelling in the groin area
- Itching
- Other (Specify).....

19. Have you ever heard of HIV or the disease called AIDS?

- Yes
- No



Don't know

20. Do you know anyone who is infected with HIV or who has died of AIDS?

- Yes
- No
- Don't know

21. Can people protect themselves from the HIV virus by using a condom correctly every time they have sex?

- Yes
- No
- Don't know

22. Can a person get the HIV virus from mosquito bite?

- Yes
- No
- Don't know

23. Can people protect themselves from the HIV virus by having one uninfected sexual partner?

- Yes
- No
- Don't know

24. Can people protect themselves from the HIV virus by abstaining from sexual intercourse?

- Yes
- No
- Don't know

25. Can a person get the HIV virus by sharing a meal with someone who is infected?

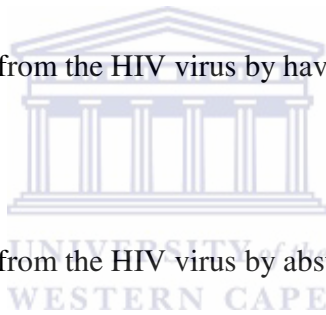
- Yes
- No
- Don't know

26. Can a person get the HIV virus by sharing a needle that was already used by someone else?

- Yes
- No
- Don't know

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

- Yes
- No
- Don't know



28. Can a pregnant woman infected with HIV or AIDS transmit the virus to her unborn child?

- Yes
- No
- Don't know

29. Can a pregnant woman reduce the risk of transmission of HIV to her unborn child?

- Yes
- No
- Don't know

30. Is it possible in your community for someone to get a confidential test to find out if they are infected with HIV? (By confidential, I mean that no one will know the result if you don't want them to know it)

- Yes
- No
- Don't know

### SECTION 3: HIV/AIDS: ATTITUDES AND BELIEFS

31. I don't want to know the result, but have **you** ever had an HIV test?

- Yes
- No
- Don't know

32. Did you do the HIV test on your own or were you forced to do it?

- It was voluntary
- I was forced to do it

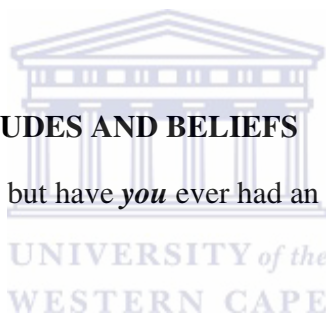
33. Please do not tell me the result, but did you find out the result of your test?

- Yes
- No

**Below are some questions about how you agree or disagree with some issues relating to HIV/AIDS. Please tick only *ONE* box that best represents your opinion.**

34. In my opinion is it acceptable for AIDS to be discussed on the radio

- I agree
- I disagree
- I don't know



35. In my opinion is it acceptable for AIDS to be discussed on the television

- I agree
- I disagree
- I don't know

36. In my opinion is it acceptable for AIDS to be discussed in the newspaper

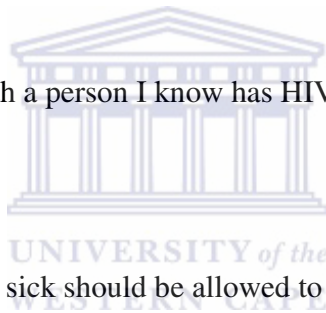
- I agree
- I disagree
- I don't know

37. I have talked with a friend (boy or friend) before about ways to prevent getting the HIV virus

- I agree
- I disagree
- I don't know

38. I can willingly share a meal with a person I know has HIV/ AIDS

- I agree
- I disagree
- I don't know



39. Students with HIV but who not sick should be allowed to continue attending school

- I agree
- I disagree
- I don't know

40. If my relative becomes ill with AIDS, I'll be willing to care for her/him in my household

- I agree
- I disagree
- I don't know

41. Teachers with HIV who are not sick should be allowed to continue teaching

- I agree
- I disagree
- I don't know

42. If a member of my family gets infected with HIV, it should remain a top secret

- I agree
- I disagree

- I don't know

43. I am willing to have the HIV test

- I agree
- I disagree
- I don't know

44. I can buy food from a food seller who has HIV

- I agree
- I disagree
- I don't know

45. I know where to go for HIV test

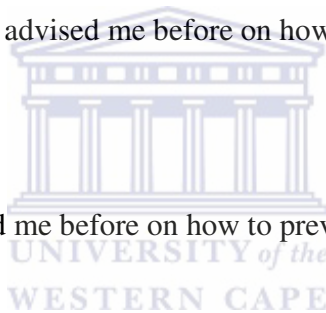
- I agree
- I disagree
- I don't know

46. At least one of my teachers has advised me before on how to prevent HIV/AIDS

- I agree
- I disagree
- I don't know

47. My parent/guardian has advised me before on how to prevent HIV/AIDS

- I agree
- I disagree
- I don't know



48. It is right to educate people in the community on how to prevent HIV/AIDS.

- I agree
- I disagree
- I don't know

#### **SECTION 4: SEXUAL BEHAVIOUR**

49. Have you ever had sexual intercourse?

- Yes
- No ..... (**Move to No: 59**)

50. At what age did you first have sexual intercourse? (Write the age in years).....

51. I would like you to remember the very first time you had sex. Which of the following statements most closely describes your experiences the first time you had sexual intercourse? (Tick only **ONE** box)

- I was willing
- I was persuaded through gifts, money and other favours

51. Cont.

- I was tricked
- I was physically forced
- I was raped
- I was drunk
- My best friend convinced me
- I don't know

52. Have you had sexual intercourse in the last 6 months? (Tick only **ONE** box)

- Yes
- No
- I don't know

53. If yes, how many sexual partners have you had in the last six months?

- .....people (write the number of people)

54. (BOTH BOYS AND GIRLS PLEASE ANSWER) Has someone ever paid you (money or other gifts) to have sex with you?

- Yes
- No
- Don't know



55. Have you ever used a condom?

- Yes
- No

56. If **YES**, who initiated it? (Tick only **ONE** box)

- Myself
- My partner
- Joint decision
- Don't remember

57. The last time you had sex did you and your partner use a condom?

- Yes..... (Move to No: 59)
- No
- Don't remember

58. If **NO**, why didn't you and your partner use a condom that time? (Tick **ALL** that apply to you)

- A condom was not available
- We could not afford to buy it

- We don't know where to get it
- My partner doesn't like them
- I don't like them
- We didn't think of it
- We didn't think it was necessary
- Don't know

59. Some boys and girls have been circumcised. Have you been circumcised? (Tick only **ONE** box)

- Yes
- No
- Don't know

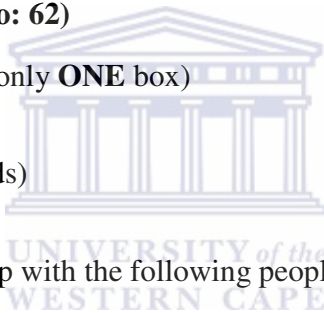
**SECTION 5: ALCOHOL AND SUBSTANCE ABUSE**

60. Do you take alcohol? (Includes palm wine)

- Yes
- No ..... (Move to No: 62)

61. If YES, how frequently? (Tick only **ONE** box)

- Occasional drinker
- Moderate drinker (Weekends)
- Frequent drinker (daily)



62. Do you have a close relationship with the following people? (Tick **ALL** that apply to you)

- Peers/mates who drink alcohol
- Peers/mates who use drugs (marijuana/Indian hemp/Igbo, cocaine, heroin)
- Peers/mates who smoke cigarettes
- None

63. Have you ever used drugs (marijuana/Indian hemp/Igbo, cocaine, heroin, etc?)

- Yes
- No

64. If **YES**, what have you used? (Tick **ALL** that apply to you)

- Marijuana/Indian hemp/Igbo
- cocaine
- heroin
- Others (Specify).....

*That is the end of the questionnaire. Thank you very much for taking time to complete these questions. We appreciate your participation.*

**Appendix 3: Consent Form**

**UNIVERSITY OF THE WESTERN CAPE**



Private Bag X 17, Bellville 7535, South Africa  
*Tel: +27 21-959, Fax: 27 21-959*

**CONSENT FORM**

**Title of Research Project: knowledge of and attitudes towards HIV and risky sexual behaviour amongst adolescent secondary school students in Bekwarra, Nigeria.**

The study has been described to me in a language that I understand and I freely and voluntarily agree to participate. My questions about the study have been answered. I understand that my identity will not be disclosed and that I may withdraw from the study without giving a reason at any time and this will not negatively affect me in any way.

**Participant's name**.....

**Participant's signature**.....

**Date**.....

(For participants less than 18yrs only):

**Parent's name:** .....**signature:** .....

Should you have any questions regarding this study or wish to report any problems you have experienced related to the study, please contact the study coordinator:

**Study Coordinator's Name: Suraya Mohamed**

**University of the Western Cape**

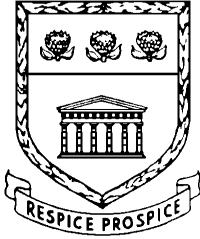
**Private Bag X17, Belville 7535, South Africa**

**Telephone: (021)959-2809**

**Fax: (021)959-2872**

**Email: sumohamed@uwc.ac.za**

## Appendix 4: Information Sheet



# UNIVERSITY OF THE WESTERN CAPE

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### INFORMATION SHEET

**Project Title: Knowledge of and attitudes towards HIV and risky sexual behaviour amongst adolescent secondary school students in Bekwarra, Nigeria.**

#### **What is this study about?**

This is a research project being conducted by Dr Achinyang Adie at the University of the Western Cape. The purpose of this research project is to find out your knowledge and beliefs about HIV and also about harmful sexual behaviours that may expose you to getting HIV. We are inviting you to participate in this research project because you are a secondary school student in Bekwarra and we think that you will be able to give us the information that we need.

#### **What will I be asked to do if I agree to participate?**

You will be asked to complete a questionnaire, which will take between 30 and 45 minutes. The study venue will be your school – you will not need to travel elsewhere. Research assistants (nurses) will be available during the study to explain things to you, and to guide you while you are completing the questionnaire. You will be required to sign a consent form before participating in the study. There will be a variety of questions. For example, you will be asked where you get information about HIV/AIDS (radio, newspaper, TV, public posters), how HIV is passed from one person to the other (sexual intercourse, kissing, mosquito bites), personal risk taking behaviour, attitude about condoms and knowledge about preventing the disease.

#### **Would my participation in this study be kept confidential?**

We will do our best to keep your personal information confidential. To help protect your confidentiality, your identity will not be disclosed to anyone. Your name will not be included in the questionnaire and other collected data.

If we write a report or article about this research project, your identity will be protected to the maximum extent possible.

#### **What are the risks of this research?**



There are no known risks associated with participating in this research project.

**What are the benefits of this research?**

This research is not designed to help you personally, but the results may help the investigator learn more what students in Bekwarra know about HIV/AIDS, their attitudes towards it and the risky sexual behaviours they engage in. We hope that, the result will enable us to advice the health and education departments on how to design good interventions to reduce the spread of HIV in this local government area.

**Do I have to be in this research and may I stop participating at any time?**

Your participation in this research is completely voluntary. You may choose not to take part at all. If you decide to participate in this research, you may stop participating at any time. If you decide not to participate in this study or if you stop participating at any time, you will not be penalized or lose any benefits to which you otherwise qualify.

**Is any assistance available if I am negatively affected by participating in this study?**

If you are negatively affected by participation in the study we will refer you for counselling.

**What if I have questions?**

This research is being conducted by Dr Achinyang Adie, School of Public Health at the University of the Western Cape, South Africa. If you have any questions about the research study itself, please contact the study coordinator, Suraya Mohamed at:

University of the Western Cape

Private Bag X17

Bellville 7535

Telephone: (021) 959-2809

Fax: (021) 959-2872

Should you have any questions regarding this study and your rights as a research participant or if you wish to report any problems you have experienced related to the study, please contact:

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This research has been approved by the University of the Western Cape's Senate Research Committee and Ethics Committee.

