

**KNOWLEDGE, ATTITUDE AND BEHAVIORS RELATED TO  
HIV/AIDS AMONGST FEMALE ADOLESCENTS WHO ARE  
ACCESSING THE PRIMARY HEALTH SERVICES FOR  
CONTRACEPTION (BIRTH PILL) IN ANDARA DISTRICT,  
NAMIBIA**

Alexis Ntumba



A mini-thesis submitted in partial fulfilment of the requirements for the degree of Master of Public Health (MPH) at the School of Public Health,  
University of Western Cape.

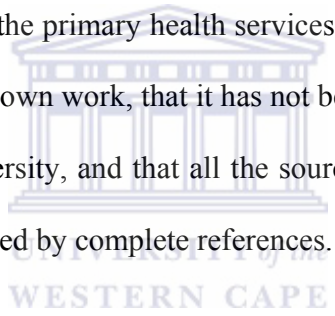
Supervisor: Dr. Vera Scott

Co-supervisor: Mr. Ehimario Igumbor

April 2009

**Declaration**

I declare that Knowledge, Attitude and Behaviour related to HIV/AIDS amongst female adolescents who are accessing the primary health services for contraception (birth pill) in Andara district, Namibia is my own work, that it has not been submitted for any degree or examination in any other university, and that all the sources I have used or quoted have been indicated and acknowledged by complete references.



Alexis Ntumba

.....

Signature

.....

Date

**Keywords:**

Namibia,

Andara district,

HIV/AIDS prevention strategies

Knowledge,

Attitude

Behaviour,

Prevention strategies,

Adolescents,

Contraception,

Condom Use.



# Table of Contents

<b>Table of Contents</b> .....	<b>iii</b>
<b>Acknowledgement</b> .....	<b>vii</b>
<b>List of Acronyms</b> .....	<b>viii</b>
<b>List of Figures</b> .....	<b>ix</b>
<b>List of Tables</b> .....	<b>x</b>
<b>Abstract</b> .....	<b>xi</b>
<b>Chapter 1 Introduction</b> .....	<b>1</b>
1.1 Background .....	1
1.2 Problem statement .....	4
<b>Chapter 2 Literature Review</b> .....	<b>5</b>
2.1 Prevalence of HIV/AIDS.....	5
2.2 Risk Factors for HIV Transmission.....	6
2.2.1 Early sexual debut .....	6
2.2.2 Unprotected sexual activity.....	7
2.2.3 Myths and misunderstandings .....	8



<b>2.3</b>	<b>. Knowledge on HIV/AIDS of adolescents .....</b>	<b>9</b>
2.3.1	Sources of Information on HIV/AIDS .....	9
2.3.2	Increasing Knowledge through intervention .....	10
2.3.3	Misunderstanding of terms used in HIV education .....	11
2.3.4	Knowledge does not always translate into safe behaviour .....	12
<b>2.4</b>	<b>Reasons for Non-use of Prevention Strategy .....</b>	<b>15</b>
<b>2.5</b>	<b>Methodological Considerations.....</b>	<b>17</b>
<b>2.6</b>	<b>Aim and Objectives .....</b>	<b>19</b>
<b>Chapter 3</b>	<b>Study Methods .....</b>	<b>20</b>
3.1	Study setting .....	20
3.2	Study design .....	20
3.3	Study Population.....	20
3.4	Sample .....	21
3.5	Sample size .....	21
3.6	Data Collection Tool .....	23
3.7	Piloting.....	23
3.8	Validity.....	24
3.9	Generalisability .....	25
3.10	Ethical considerations .....	26



3.11	Data Analysis.....	27
<b>Chapter 4 Results .....</b>		<b>29</b>
4.1	<b>Descriptive Analysis .....</b>	<b>30</b>
4.1.1	Age and education of respondents .....	30
4.1.2	Sexual history .....	32
4.1.3	Knowledge, perception and attitudes .....	36
4.2	<b>Comparative analysis .....</b>	<b>39</b>
4.2.1	Association between background characteristics and general knowledge of HIV.....	39
4.2.2	Association between background characteristics and respondent's knowledge of HIV/AIDS protection strategies .....	42
4.2.3	Association between background characteristics and condom use.....	44
4.2.4	Association between respondent's knowledge of HIV/AIDS protection strategies and condom use	46
4.2.5	Knowledge of source of male condom and frequency of condom use .....	47
<b>Chapter 5 Discussion .....</b>		<b>49</b>
<b>Chapter 6 Conclusions and recommendations.....</b>		<b>59</b>
6.1	<b>Conclusions .....</b>	<b>59</b>
6.2	<b>Recommendations .....</b>	<b>60</b>
<b>Reference List .....</b>		<b>61</b>
<b>Appendix 1: Questionnaire .....</b>		<b>68</b>

6.3	Section 1: Background characteristics .....	68
6.4	Section 2: Sexual history: number and types of partners.....	69
6.5	Section 3: Commercial partners.....	70
6.6	Section 4: Non-commercial partners .....	71
6.7	Section 5: Male condom.....	72
6.8	Section 6: Knowledge, opinions and attitudes.....	73

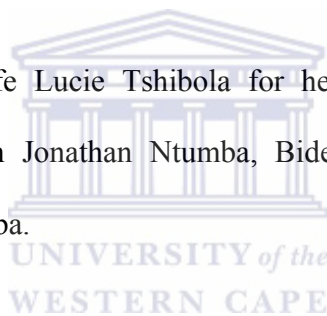


## **Acknowledgement**

I highly appreciate the assistance and direction of my Supervisor, Dr. Vera Scott, and my co-supervisor, Mr Ehimario Igumbor, who in spite of their tight schedules, accepted to provide direction to this work and share their insight and experience.

I would like to thank the Almighty for the gift of life and health granted to me and my family.

Special thanks go to my wife Lucie Tshibola for her patience, support and stress management and my children Jonathan Ntumba, Bides Ntumba, Emmanuel (DAN) Ntumba and Alex Junior Ntumba.



I also extend my gratitude to the lecturers who helped me one way or another during my MPH program; Ms. Lungiswa Tsolekile and Prof Debra Jackson.

I also express my sincere gratitude to the health workers, nurses and community counsellors who accepted to collect data from female adolescents on contraception in the district. I thank very much all girls who accepted to participate to this study.

Last and not the least, all those who assisted me in one way or another and I could not mention by name due to time and space limitations. Please accept my sincere gratitude.



## List of Acronyms

AIDS	Acquired Immunodeficiency Syndrome
CDC	Centers for Disease Control
FP	Family Planning
HIV	Human Immunodeficiency Virus
KAB	Knowledge, Attitude and Behaviour
MOHSS	Ministry of Health and Social Services
PHC	Primary Health Care
STI	Sexually Transmitted Infections
UNAIDS	United Nations Programme on HIV/AIDS
UNICEF	United Nations Children's Fund
UWC	University of the Western Cape
WHO	World Health Organization

## List of Figures

Figure 1: Frequency of condom use ( N=213).....	34
Figure 2: Sexual history and condom use (N=27) .....	35
Figure 3: General knowledge about HIV (N=251).....	36
Figure 4: Knowledge of HIV/AIDS protection strategies (N=251) .....	37



## List of Tables

Table 1: Number of participants recruited per facility.....	22
Table 2: Characteristics of respondents (N=251) .....	31
Table 3: Age distribution at sexual debut (N = 251) .....	32
Table 4: Number of sexual partners in the 12 months preceding the survey (N=213).....	33
Table 5: Association of age of respondents with their knowledge of sexual intercourse as main way of HIV transmission .....	40
Table 6: Grade completed and knowledge of sex as main way of HIV transmission .....	41
Table 7: Age, education and adequate knowledge on HIV/AIDS protection strategies... 43	
Table 8: Age and Condom use at sexual debut (N=251).....	44
Table 9: Age, education and condom use at last sexual intercourse.....	45
Table 10: Adequate knowledge of HIV/AIDS protection strategies and frequency of condom use .....	46
Table 11: Frequency of condom use.....	48

## **Abstract**

**Background:** In Namibia, studies showed that HIV/AIDS affects youth, especially the under 24 years age group. At the same time the pregnancy rate is also high by age 19. Interestingly, in Andara district several reports from staff working in the reproductive services have indicated that adolescent girls, who would seem to be taking responsibility in one sphere of their sexual lives by protecting themselves against unwanted pregnancy, were however not using condoms to protect themselves from HIV infection.

**Study Aim and Objectives:** To describe the knowledge, attitude and behaviour related to HIV/AIDS amongst female adolescents who are accessing the primary health care (PHC) services for contraception. Specific objectives were to describe the knowledge of female adolescents who are accessing the PHC services for contraception about the modes of transmission and prevention of HIV/AIDS, to assess their attitude with regards to condom use, abstinence and being faithful to one uninfected partner, also to determine the significance of association between age and knowledge, attitudes and behaviour, between their education level and knowledge, attitudes and behaviour and the significance of association between knowledge of HIV prevention strategies and behaviour of female adolescents accessing PHC services for contraception in the district.

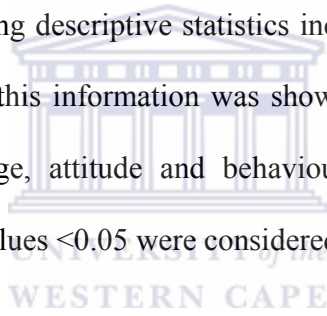
**Setting:** The study was conducted in Andara district, North East of Namibia.

**Methods:** Descriptive cross-sectional KAB study.

**Sample:** All female adolescents who are accessing PHC services for contraception selected from multistage simple random sampling in 5 facilities and systematic sampling at facility level in Andara. All married women within this age range were excluded in the study.

**Data collection tool:** An interviewer-administered standardised questionnaire was used to collect the data.

**Data analysis and Interpretations:** Epi Info software 2002 was used for data analysis. The results were presented using descriptive statistics including means, 95% confidence intervals and percentages and this information was shown in tables, bar and pie charts. Cross-tabulations of knowledge, attitude and behaviour scores against demographic variables were performed. P-values  $<0.05$  were considered statistically significant.



**Results:** 76.5% knew that unprotected sexual intercourse was the main way of getting HIV/AIDS, 77.3% knew that people could protect themselves by abstaining from sexual intercourse and 64.5% knew that people could protect themselves by having one uninfected faithful sexual partner.

Out of 192 respondents who stated that unprotected sexual intercourse was the main way of HIV/AIDS transmission, 25.5% used condom every time they had sexual intercourse, 10.9% used condom almost every time they had sex, 41.1% used condom sometimes and 22.4% never used condom. Older girls and those who were in higher grades at school had more knowledge that could protect them from HIV infection. Later sexual debut is associated with increased condom usage at sexual debut.

**Conclusions:** The general HIV knowledge of respondents and their knowledge of how to protect themselves from HIV infection were disappointing given that this study was conducted in health facilities. In this study we also see that knowledge does not always translate into the appropriate behaviour. The health services need to evaluate the targeting and effectiveness of their HIV educational messages and develop skills that will support behaviour change.

## **Chapter 1 Introduction**

### **1.1 Background**

The HIV pandemic has increased morbidity and mortality worldwide and in Africa, especially Sub-Saharan Africa. According to UNAIDS (2008), Sub-Saharan Africa remains the region most heavily affected by HIV, accounting for 67% of all people living with HIV and for 75% of AIDS deaths. Namibia too is severely affected. In many regions of the world, new HIV infections are concentrated among youth ranging between 15 to 24 years. Young people aged 15–24 account for an estimated 45% of new HIV infections worldwide (UNAIDS, 2008). In Namibia, the HIV prevalence is 10.6 % between 20-24 years old and 24.7% between 25-49 years (Namibia HIV sentinel survey, 2008).

In Namibia a district health system model is followed. The district of Andara is situated in the Kavango Region that is located in the North-East of Namibia. Andara is bordered by Angola on the north and Botswana to the east. The population census of 2001 revealed a total population of 31,599 in this rural district (under five: 5,055.84; 5-14 years: 9,479.70; 15-49 years: 14,535.54; 60+years: 2,527.92) and projected a growth rate of 3.7 % from 2006. The district is served by one hospital with an in-patient capacity of 120 beds and eight clinics. The hospital is at the centre with 4 clinics on the east and 4 to the west. Two of the clinics in the east serve the Sun communities and remaining six clinics serve the Ambukushu tribe.

According to the establishment list, each clinic should have one registered nurse and one enrolled nurse however, with the exception of two clinics, they only have one enrolled nurse. There is only one VCT centre in the district which is located at the main hospital, funded by a capacity project.

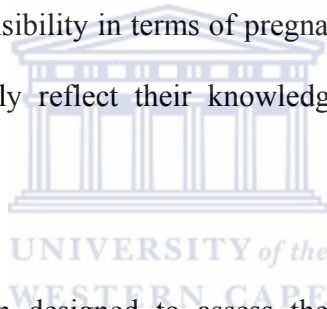
The district has 9 secondary schools and 31 primary schools. In terms of the level of education in the region, the 2001 census revealed that 53% of the population aged 15 years and above had left without completing primary education, 34% had completed primary school while only 7% had completed secondary school. A program called “My future is my choice” has been developed by Unicef and the Government of Namibia. This program is comprehensive and aims to assist pupils to understand the disease. Young people are taught to teach seminars entitled “My future is my choice” to other young people (Unicef, 2005). The programme is conducted in secondary schools in the afternoons and has helped young people to delay sex/and practice safer sex. But those young people, who do not attend school, do not benefit from the programme.

The 2001 census revealed 80% of the population in the working age group were employed and that 20% were unemployed. The criterion used to determine the employment status was that, an individual who worked for money at least one hour per day was considered as employed (Namibia National Planning Commission, 2001).



Although 80% are classified as employed, the level of education attained suggests that the expected income, which for most of the people in the region is low. Most people in the area do not have electricity, while some use batteries as mean of power for Television. The number of newly infected people is increasing every year worldwide.

In the light of this continuing risk it is of concern that in Andara District (Namibia) health personnel attending to the female adolescents in the family planning services report that a number of young girls (13 to 19 years of age) have limited knowledge related to HIV/AIDS prevention. Whilst the female adolescents are involved in sexual activities and demonstrate a degree of responsibility in terms of pregnancy prevention by attending the clinic this does not necessarily reflect their knowledge and vigilance in relation to HIV/AIDS.



This study has therefore been designed to assess the knowledge and attitudes and associated behaviours of female adolescents on contraception in order to assess whether they are at risk of HIV infection, and if so, to guide appropriate programmes that could reduce the toll of HIV/AIDS. An assumption of this study is that the spread of HIV/AIDS is closely linked to knowledge, attitudes and behaviours.

## 1.2 Problem statement

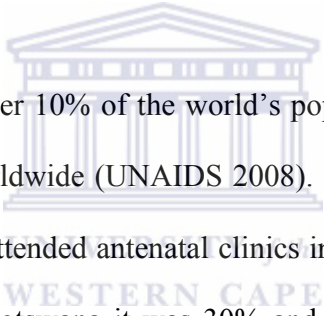
The high rate of HIV infection among young people in Namibia is a cause of concern. Furthermore, there is evidence that the prevalence is still rising: the prevalence of HIV amongst pregnant women which was 19% in 2004 had risen to 22.7% by 2006 (Namibian National Sentinel Survey, 2006).

The Namibian health system hopes to reduce HIV transmission through HIV prevention programme which is made up of health education in schools, community mobilization by counsellors and nurses from the Voluntary Counselling and Testing (VCT) Centre. The package of health education includes among others modes of transmission of HIV/AIDS and prevention methods namely abstinence, being faithful to one sexual uninfected partner and using condoms. However in Andara district, several reports from staff working in the health facilities have indicated that adolescent girls, who would seem to be taking responsibility to protect themselves against unwanted pregnancy, are however not using condoms to protect themselves from HIV ( Andara district Health workers, 2006). They do not seem to have grasped their risk of HIV infection through unprotected intercourse nor the implications of becoming HIV positive. Therefore it is necessary to do research to see whether there is evidence to support these anecdotal claims by assessing knowledge of HIV/AIDS of female adolescents on contraception, their attitudes towards HIV/AIDS prevention methods and their associated behaviour in order to guide programme development and implementation.

## **Chapter 2 Literature Review**

### **2.1 Prevalence of HIV/AIDS**

The number of people living with HIV continues to grow worldwide as a result of the ongoing number of new infections each year and the beneficial effects of more widely available antiretroviral therapy and particularly in Southern Africa. According to UNAIDS (2008), 33 million adults and 2 million children are living with HIV/AIDS and 2.7 million people newly infected with HIV in 2007.



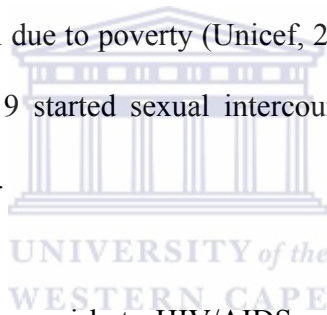
Sub-Saharan Africa has just over 10% of the world's population, but more than 67% of all people living with HIV worldwide (UNAIDS 2008). In South Africa, the prevalence of HIV amongst women who attended antenatal clinics in 2004 was 29,5% increasing to 30.2% a year later, while in Botswana it was 30% and Namibia 19.7%. In Swaziland, HIV prevalence among pregnant women soared to 43% (UNAIDS 2004). In sub-Saharan Africa the problem of HIV is still increasing.

In Namibia, the 2006 National HIV Sentinel Survey revealed that the prevalence amongst pregnant women attending antenatal clinics is 19.9%, but Andara District, which was at 19% in 2004, had by 2006 risen to 22.7% (Namibian National Sentinel Survey, 2006).

## **2.2 Risk Factors for HIV Transmission**

### **2.2.1 Early sexual debut**

Sexual debut plays a role in the transmission of HIV/AIDS as the earlier one starts sex, the higher the exposure to HIV/AIDS. In Sub-Saharan Africa, many girls start sex at earlier age. Sexual debut as early as nine years was reported in Zimbabwe (Mgale, 2000; Ikamba & Ouedraogo, 2003), and at the age of 10 years in Tanzania (Population Reference Bureau, 2000; Ikamba & Ouedraogo, 2003). In Angola, sexual debut as low as eight years old has been reported, with children aged 11 years old forced to use sex for their own and family's survival due to poverty (Unicef, 2003). In Rwanda, 9.3% of girls and 29.5% of boys aged 15-19 started sexual intercourse by age 15 (National AIDS Commission of Rwanda, 2004).

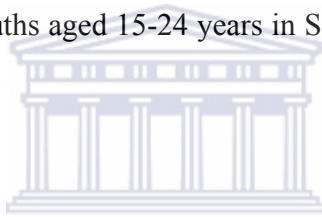


Early sexual debut exposes young girls to HIV/AIDS as they are not mature enough to make right decisions and negotiate condoms, even their knowledge related to HIV/AIDS is questionable. Furthermore, the bleeding during the first intercourse as a result of broken hymen increases the risk of one being infected with the HIV virus.

A study in Namibia which focused on sexual activity in adolescents aged 16-19 years old found that 60% were already sexually active and that 6% of girls and 12% of boys stated that they had started sex before the age of 15 (Unicef, 2004).

### **2.2.2 Unprotected sexual activity**

Pettifor *et al* (2003) found that despite the large amount of information related to HIV prevention through media, youth still engaged in risky behaviour. They conducted a household survey on sexual power and HIV risk, in South Africa. 11 904 men and women aged 15-24 years were interviewed drawn from a national sample of households in South Africa. Of this, 4,066 female respondents reported that they were sexually active, 71% of these reported inconsistent use of condoms and 12.8% reported having had more than one sexual partner in the 12 months before the survey. The study revealed that almost three-quarter of youths aged 15-24 years in South Africa are not consistent in condoms use.



In Rwanda, 4, 956 youth aged 15-19 years from 6 provinces were selected. The study revealed that 59.5% of males and 55.7% of females had knowledge of HIV/AIDS prevention strategy, of which 19.7% and only 11.3% of males and females use condom at their last sexual intercourse (National AIDS Commission of Rwanda, 2004).

### **2.2.3 Myths and misunderstandings**

Myths and misunderstandings play a negative role in the fight against HIV/AIDS. A study conducted in Tanga, Tanzania revealed that rumours that condoms carry viruses and that a condom can be left in the womb during sexual intercourse contribute to lack of condom use among youths in Tanga, Tanzania (Ikamba & Ouedraogo, 2003).

In Northern Namibia, a qualitative study was conducted by Mufune (2005) on myths about condoms and HIV/AIDS. The study revealed that many community members said that infected people do not have to protect themselves because they already have the virus. Furthermore the community members believed that the gel inside the condom contains HIV virus. (Mufune, 2005). The study concluded that there is still ignorance among people in the Northern Namibia that need to be addressed. An AIDS education would help people in the region to understand the disease and avoid risky behaviours.

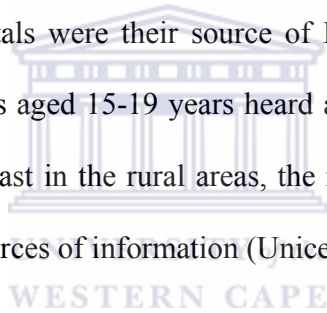
According to the Namibian Demographic and Health Survey, 2006/07, some common misconceptions were noted, including (1) healthy looking person can not have the AIDS virus; (2) AIDS can be transmitted by mosquito bites; (3) AIDS can be transmitted by supernatural means; (4) a person can become infected through sharing food. These misconceptions will potentially increase stigma and discrimination against patients living with HIV/AIDS (PLWHA).

## **2.3 . Knowledge on HIV/AIDS of adolescents**

### **2.3.1 Sources of Information on HIV/AIDS**

A review of the literature from Southern African shows that media, friends, health clinics and schools are all important sources of HIV/AIDS information. There may be some differences in the most common source depending on the adolescents' age and gender and whether they live in urban or rural settings.

In Luanda, Angola, 60% of girls aged 11-14 years living in urban areas reported that schools, health posts or hospitals were their source of HIV/AIDS information. On the other hand, 90% of adolescents aged 15-19 years heard about HIV/AIDS through radio, television and friends. In contrast in the rural areas, the majority of teenagers suggested that playgrounds were their sources of information (Unicef, 2003).



A study in Kwazulu-Natal, South Africa (James, Reddy, Taylor & Jinabbai, 2004) highlights the importance of the media above the family as source of information and reveals some gender differences. Boys and girls aged 15-21 years old received their information through media (83.2% boys and 85% girls ), from friends(71.4% of boys and 64.2 % of girls ), from the clinic (51.8% and 67.2% ), from schools (47.9% and 50.7%) and from family (32.5 % and 33.1%).

In Namibia, young people get their information from schools, radio and television and through a peer education programme “My future is my choice” in schools (Unicef, 2005).

### **2.3.2 Increasing Knowledge through intervention**

A case control study was conducted in Kwaggafontein, South Africa by Hartel & Cyclic (2005) in which 352 students from three high schools participated. Respondents in the intervention group were exposed to an AIDS education program and they showed a dramatic increase in awareness whereby students reported that AIDS was a problem in their community (74% post-educational and 44% pre-educational), HIV/AIDS is preventable (88% and 48%), AIDS was an incurable disease (87% and 41%).

The control group followed a general hygiene program and showed less increase in AIDS awareness post-education: 53% against 49 % reported AIDS was a problem in the community, 58% against 49 % reported that AIDS is preventable and 45% against 44% reported that AIDS is an incurable disease.

Another cross-sectional study was conducted in Nepal in the Kathmandu valley by Jaiswal et al (2005). Data was collected by administering a closed questionnaire to 1 012 Class 8 and 9 students of different schools. The study revealed that after an HIV/AIDS educational programme of 45 minutes, the knowledge amongst respondents had increased; knowledge of HIV (45.8% pre-educational and 91% post-educational), Knowledge of AIDS (60.6% and 94.4%), and HIV is not curable (77.3% and 96.9%).



In terms of mode of transmission, sexual intercourse (96.4% pre-educational and 99.2% post-educational) and in terms of prevention, condoms use (92.6% pre-educational and 99.0% post-educational).

The two studies showed that AIDS education increased knowledge amongst adolescents and the authors argue that when people know the magnitude of the situation, especially that HIV/AIDS does not have a cure; their attitude and behaviour are more likely to change.

### **2.3.3 Misunderstanding of terms used in HIV education**

In Northern Namibia, people including girls 15-20 years old knew that condoms use was the best way to prevent HIV/AIDS, which is incurable (Mufune, 2005).

However, misunderstanding related to modes of transmission was noticed among youth in Windhoek, Namibia. A cross-sectional study conducted in Namibia through the Ministry of Education in collaboration with Unicef in 2003 showed that amongst one hundred of Greater Windhoek Youth (15-24 years) interviewed, most of them believe that “abstinence” means to be absent, “faithfulness” means faith in a religious sense and not in a sense of being faithful to one partner and 75% never heard the word monogamy (Unicef, 2003). This study revealed that youth in Namibia still misunderstand terminology related to modes of transmission of HIV.

However, youth may misunderstand the terms, but may know the meanings in their own languages. This study did not, however, assess whether young people know about modes of transmission in their own language.

#### **2.3.4 Knowledge does not always translate into safe behaviour**

Another study conducted in Kwazulu-Natal Province revealed that only 59% of young people protected themselves from both Pregnancy and HIV the last time they had sex, 53% because they used condoms alone and 6% because they used condoms plus another method (other than a condom), and 30% did not use any method at all (Maharaja, 2006). Sixty four percent of condom users used this method for dual protection against both pregnancy and STIs, including HIV, while 24% of male and 18% of women used condoms to prevent pregnancy, 10% only to prevent STIs (Maharaja, 2006). This study showed that young people knew that condom use prevent HIV and pregnancy, but more than a quarter did not use anything during their last sexual intercourse.

A number of studies have been conducted on adolescents' knowledge, attitude and behaviour on HIV/AIDS worldwide and in Africa. The three studies (one in Tanzania and two in South Africa) are interesting because they reveal significant gaps between knowledge and practice.

In Tanga, Tanzania a study was conducted which used both self-administered questionnaire and focus group discussions and involved 475 participants aged 13 to 20 years old. The findings revealed that 86% of youth knew that HIV/AIDS is spread through unsafe sex, 3.1% knew that it can be spread through sharing of piercing instruments and 9% did not report a single way.

Furthermore, 72% stated condoms use as means of preventing HIV/AIDS while 55% and 28% stated fidelity and abstinence respectively, however only 25% of boys and 9% of girls used condoms at their last sexual intercourse (Ikamba & Ouedraogo, 2003). This study revealed that in spite of their knowledge on modes of transmission and prevention of HIV/AIDS, many adolescents in Tanga do not protect themselves against HIV/AIDS.

James, Reddy, Taylor & Jinabbai (2004) did a cross-sectional descriptive study among Grade 11 adolescents in the Midlands district of Kwazulu-Natal, South Africa which showed that 87.1% agreed that Sexually transmitted infections (STI) including HIV/AIDS were spread by unprotected sex, 8.4% disagreed and 4.5% were unsure. In terms of prevention, 86.4% agreed that a person protected oneself from contracting STI by using a condom, 75% agreed that a person protected oneself by having one sexual partner, 11.9% disagreed and 12.6% were unsure. Forty two percent of participants had sexual intercourse in the last six months. Among the sexual active students, 33.3% did not use condom, 41, 8% indicated using condom every time and 42.6% reported to have used condom sometimes.

This study showed that, despite high levels of knowledge of the benefits of condom usage only a quarter used condom consistently and almost three quarter were engaged in risky behaviour, whether by not using condom at all or by using condom sometimes.

In Namibia, 80.6% of youth aged 15-19 years knew that HIV could be prevented by using condoms. The knowledge of HIV/AIDS among youth is high; however the results of the sero-surveillance survey in 2006 indicate that there has not been significant change in sexual behaviour (Namibian Demographic Health Survey, 2008).

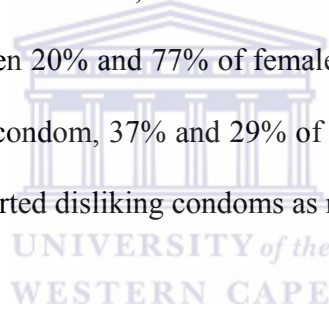
In Zambia, the knowledge of HIV prevention methods (ability to correctly identifying condom use and limiting sex to one uninfected partner as major ways of preventing the sexual transmission of HIV is 31 percent for young women and 33 percent for young men. The survey further revealed that female adolescents aged 15-19 had exchanged sex for money or gifts (Zambia country profile, 2007).

Parker & Connolly (2007) conducted a survey among 15 years and older in 4 Namibian towns; Keetmanshoop, Oshakati, Walvis Bay and Rundu. The study revealed that the knowledge of HIV prevention strategy in all towns is high; 81% in Keetmanshoop, 85% in Oshakati and Rundu, and 88% in Walvis Bay knew that consistent use of condom was a way to prevent HIV transmission.

However, out of 116 youth aged 15-24 years in Keetmanshoop, 137 in Oshakati, 133 in Rundu and 102 in Walvis Bay, 87% in Keetmanshoop, 87% in Oshakati, 76% in Rundu and 77% in Walvis Bay used condom at their last sexual intercourse. This study showed that high knowledge had translated into positive behaviour in urban settings in Namibia.

#### **2.4 Reasons for Non-use of Prevention Strategy**

A cross-sectional study was conducted in 2002 on the Reasons for Non-use of Condoms in Eight Countries in Sub-Saharan Africa, Namibia excluded. The study revealed that in most of these countries, between 20% and 77% of females reported trusting their regular partner as reason of not using condom, 37% and 29% of females respectively in Luanda, Angola and urban Zambia reported disliking condoms as reason for not using them.



The same study revealed that 38% and 28 % of females in Luanda and urban Cameroon respectively do not like condoms with their casual partner, 43% of females in Mozambique cite trusting their casual partner as reason for not using a condom (Agha, Kusanthan, Longfield, Klein & Berman, 2002).

Another cross-sectional comparative study of rural and urban areas in Northwest Ethiopia, involving 1001 respondents aged 10-19 years old was conducted. Among the respondents, 57% were females and 43% were males.

The study revealed that about 36% believe that using a condom is a sign of not trusting one's partner and 20% think that discussing condoms or other contraceptives promote promiscuity.

Forty five percent reported to have sexual experiences. Among sexually active study subjects, 21% use modern contraceptives and 78% know at least one mode that prevent pregnancy, 21% use modern contraception and 18% reported douching as one of the modes of preventing pregnancy and only 2% in the rural compared to 35% in the urban sexually active adolescents had ever used condoms (Seifu, Fantahum & Worku, 2006). This study clearly showed how adolescents are preventing pregnancy and not HIV/AIDS.



## **2.5 Methodological Considerations**

In assessing the knowledge, attitudes and behaviour related to HIV of adolescents, different researchers have used different study designs ranging from qualitative focus group discussions (Marino, Pearson & Casterline, 2003) to cross-sectional descriptive knowledge, attitudes and behaviour studies (e.g. James et al, 2004 and Kermyt & Beutel, 2007).

Marino, Pearson & Casterline (2003) used focus group discussions to identify the main attitudes of young people to condom and abstinence among unmarried young people in Zimbabwe. A total of 362 young people aged 14 to 20 years (51% of boys and 49% of girls) participated in the study and 36 focus group discussions with at least 10 participants were conducted. The advantages were one-time data collection, efficient in terms of time and efforts of the researcher, people in the group could interact amongst themselves and the interview could get the information needed. The disadvantage of this approach is that peer influence might play a negative role in biasing information. Also, in focus group discussions, some participants do not express themselves and some people are dominant.

Knowledge, attitude and behaviour (KAB) surveys are based on the theory that individuals knowledge, considered as facts, combined with their attitudes may predict their health-related behaviour (Katzenellenbogen, Joubert & Abdool, 1997).

The aim of KAB surveys is to measure psychological and personal variables in order to better understand why people act the way they do, so that more effective programmes may be developed to reduce the toll of these diseases.

In a KAB study conducted by James et al (2004), conducted a cross-sectional descriptive amongst grade 11 adolescents in the Midlands district of the province of Kwazulu-Natal. They used a self-administered questionnaire completed individually by students and supervised by a field worker and researchers. They found that the supervision by researchers was important to clarify queries from the pupils and ensure quality of data as well as completeness.

However even with supervision they found that some respondents did not express these queries and returned incomplete data. Hence, a researcher-administered questionnaire will ensure better completeness and quality of data, as the researcher will be able to address queries for clarifications when necessary.

Kermyt & Beutel (2007) conducted detailed interviews with 4, 752 young people in Cape Town using full-length youth questionnaires. Many will agree that the detailed interviews led to completeness and quality of data. The danger was that the researcher could have been tempted to write the answers he could feel comfortable with.



## **2.6 Aim and Objectives**

### **Aim**

To describe the level of knowledge, attitude, and behaviour related to HIV/AIDS of female adolescents who are accessing primary health services for contraception in Andara district and determine the significance of association between knowledge and behaviour.

### **Objectives**

1. To describe the level of knowledge related to HIV/AIDS of female adolescents who are accessing primary health services for contraception with regards to modes of transmission and prevention in Andara district
2. To describe attitude related to condoms use, abstinence and being faithful to one uninfected partner of female adolescent who are accessing primary health services for contraception
3. To describe the prevalence of risky behaviours (practices) related to HIV/AIDS of female adolescents who are accessing primary health services for contraception
4. To determine the significance of association between age and knowledge, attitudes and behaviour
5. To determine the significance of association between level of education and knowledge, attitudes and behaviour
6. To determine the significance of association between knowledge of HIV prevention strategies and behaviour

## **Chapter 3 Study Methods**

### **3.1 Study setting**

This study is conducted in Andara District in the district-level facilities that offer family planning services: the district hospital and the 8 feeder clinics, staffed by nurses, which refer to the district hospital.

### **3.2 Study design**

This is a quantitative descriptive cross-sectional study that describes knowledge, attitudes and calculates the prevalence of risky behaviours related to HIV/AIDS of female adolescents on contraception in Andara district at a point in time. Data was collected through an interviewer-administered questionnaire.

### **3.3 Study Population**

Female adolescents aged 13 to 19 years who are accessing PHC services for contraception in Andara district, who are not married.

### **3.4 Sample**

The sampling method was determined in order to give a sufficient sample size as well as keep the project within the limits of feasibility. The researcher felt that it would be feasible to collect data from half of the facilities.

A review of the service delivery statistics from all the facilities during the period January 2007 to November 2007 was done. This showed that the district hospital attended to 250 clients under 20 for family planning while the clinics attended to between 114 and 167 over this time period. The district hospital was purposefully selected as its case load was approximately double that of the individual clinics. 4 health facilities out of the 8 were then selected by simple random sampling.

In the second stage of sampling, participants within these 5 selected facilities were sampled systematically: every second female adolescent on contraception was selected during the 8 week study period until the desired sample was achieved.

### **3.5 Sample size**

The sample size was calculated using the Stat Calc function in Epi Info 6. It was estimated that there are a total of 1500 adolescent girls who access health facilities for contraception in Andara District and that only 25% are using condoms regularly (worst estimate 20%).

A minimum sample size of 242 is required to have a 95% confidence level. In this study, a total of 251 female adolescents who were accessing the PHC services for contraception were selected, 40 to 60 from each facility (see table 1 below).

All female adolescents who gave consent and signed the consent forms were included in the study until the desired sample was achieved.

**Table 1: Number of participants recruited per facility**

Andara Hospital	Divundu clinic	Omega clinic	Kangongo clinic	Shadiko clinic
60	51	46	42	52



### **3.6 Data Collection Tool**

An interviewer-administered questionnaire was used to collect data for 8 weeks. Out of 68 questions from the Family Health International (FHI) standardised questionnaire (FHI, 2000) 34 relevant questions were selected, the other questions were omitted as they were related to marriage, STDs other than HIV, commercial partners and some background characteristics which were not relevant to the study. Only one question was added (question 35: Do you think that a person can get infected with HIV/AIDS by unprotected sexual intercourse) for the purpose of the study.

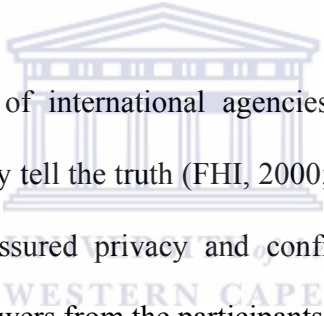
### **3.7 Piloting**



The questionnaire was piloted in November, 2007 with 10 female adolescents from Mutjiku clinic which was not selected to be part of the formal study. The researcher administered the questionnaire to 4 female adolescents who were comfortable in English and the nurse in-charge to the six respondents. During the piloting, the researcher and the nurse in-charge noted that all respondents were not comfortable to respond to the questions related to commercial sex and all stated not to have commercial sex. To avoid procedural error and measurement error, it was felt that the six questions related to commercial sex (section3, questions 10 to 15) be omitted. However one question (question 35) was added to complement the knowledge aspect of the questionnaire and was well understood by all respondents.

### 3.8 Validity

A standardized questionnaire developed by Family Health International (2000) for unmarried youth (15-19 years) was used. This questionnaire has been validated across a range of sub-population groups surveyed internationally and has been constructed on a wealth of knowledge on what questions work and don't work in asking young people about their sexual behaviour. This questionnaire has been validated for use among girls and boys who are at the start of their sexual lives and probe the trends of condom use at first sex as well as in partner turnover.



The experience of a number of international agencies in data collection on sexual behavior is that people generally tell the truth (FHI, 2000; UNAIDS, 2000; WHO, 2006): the setting of the question, assured privacy and confidentiality and non-judgmental questions help to get honest answers from the participants.

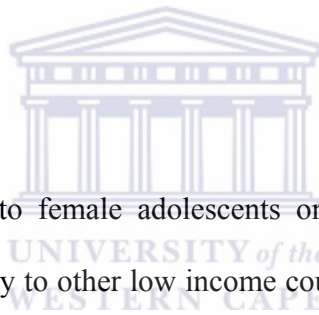
Many studies that compared self-reported sexual behavior with biological markers of sexual activity such as pregnancy, STIs and HIV indicated a good match between the reported risk behavior and biological indicators at risk (WHO, 2006).

Validity is an expression of the degree to which a test is capable to measure what one is intended to measure (Beaglehole, Bonita & Kjellstron, 1993). For one to measure what is supposed to be measured, chance and bias should be avoided.

The simple random sampling of health facilities and the systematic sampling of female adolescents on contraception had helped avoid chance and bias (selection bias).

To avoid instrument (questionnaire) bias, the questionnaire was translated into the local language (Mbukushu). This was done by a VCT counsellor who held an HIV diploma and was fluent in both the local language and English. The interviewers were nurses and community counsellors from participating health facilities. All were fluent in English and local language. They were trained on the interviewer- administered questionnaire and all showed understanding and readiness before the data collection began.

### **3.9 Generalisability**



The results are generalisable to female adolescents on contraception in similar rural settings in Namibia and possibly to other low income countries in Southern Africa where there is a low education level and where health services are constrained. The results may not be generalisable to urban areas where adolescents on contraception may have exposure to different media and may have different views and practices related to HIV/AIDS. Furthermore, the results of the study are not generalisable to youth in general as this study has a specific focus on those who have demonstrated initiative and responsibility to preventing unwanted pregnancy.

### **3.10 Ethical considerations**

Ethical clearance and approval was obtained from the High Degree Committee of the UWC and the Namibian Ministry of Health and Social Services Committee.

As a study was dealing with female adolescents accessing primary care services for contraception, consent from their parents was considered. For this age group one should get parental consent, however in this study, obtaining parental consent could result in breaking of the confidentiality between the adolescent on contraception and the health service. Some parents might not know that their children were on family planning and this forced disclosure could be harmful to the child and could prevent their ongoing access to family planning if the parents objected. In Namibia, parental consent is not required for adolescents to be on contraception. It was therefore decided to obtain consent from the adolescents and not the parents.

The study was explained to the participants and their consent obtained. The consent to participate was determined by feeling and signing the consent form designed for the purpose of the study. They were also informed that they had the right not to participate and could also withdraw anytime they wished without explanation and that would not affect the care they receive from the health facility.



To ensure confidentiality and anonymity, respondents did not state their names and after answering, each questionnaire was returned into a box. All participants benefited from health education on HIV transmission and ways to reduce risk. The importance of condoms use was promoted and their use demonstrated. Condoms are free and are available in all clinics and schools.

### **3.11 Data Analysis**

The data was captured in Excel spreadsheet and imported into Epi Info 2002 (CDC, 2002) for analysis. The same program was used for data analysis. The results were presented using descriptive statistics including means, 95% confidence intervals and percentages and this information was shown in tables, bar and pie charts. Crude associations were assessed using cross-tabulations of knowledge; attitude and behaviour scores against demographic variables were performed. Chi-square tests and Odds ratios were used to assess associations from cross-tabulations. All p-values < 0.05 were considered statistically significant.

To determine whether participants had adequate knowledge of protection strategies, 4 questions were used and each correct answer awarded one mark: 1. the source to obtain condoms, 2. protection by oneself at each sexual intercourse, 3. protection by sexual abstinence, 4. protection by having one uninfected faithful partner. All those who scored 3 or 4 were considered having adequate knowledge of prevention strategies and those who scored 2 or less were considered having inadequate knowledge.

To determine whether participants practiced risky behaviour, 4 questions were used and each question with one mark: 1. Age of sexual debut at 16 years and above, 2. Use of condom at sexual debut, 3. Consistency in condom in the last 12 months preceding the survey, 4. Condom use at last sexual intercourse. Those who scored 4 were considered having very low risky behaviour, Those scored 3 and below were considered having high risky behaviour.

In the comparative part of the analysis, variables were categorised. The current education level was categorised into “Grade 8 and below” and “At least Grade 9”. The reason for this cut-off was that those who completed at least grade 9 were more educated and exposed to more information and see whether the education level has a positive impact on HIV/AIDS general knowledge, knowledge of protection strategies and use of condom.

The age was also categorised into “16 years and below and at least 16 years”. This cut off was chosen because 16 years is the age of sexual consent and also age of intellectual ability. Consent implies competence. At the ages 12 to 13, only 11 percent of children score at an average (50<sup>th</sup> percentile) adult level on test of intellectual ability (Saletan, 2007). By ages 14 to 15, the percentage doubled to 21 and by 16 to 17, it has doubled again to 42. After that, it levels off. One would like to see whether the adolescents with a certain degree of competency and intellectual ability would have adequate general of and HIV protection strategies knowledge and the ability to negotiate condom use.

## **Chapter 4 Results**

The results of this study will be presented in two main sections: descriptive analysis and comparative analysis. The descriptive analysis covers the objectives of presenting the HIV/AIDS related knowledge, attitudes and behaviours of respondents. It starts with describing the background characteristics of the respondents, and then outlines the sexual histories and the measured levels of knowledge, attitudes and beliefs of respondents. Characteristic of this section is that it uses simple descriptive statistics of proportions. Given the skewed distribution of the sample, the median was used, rather than the mean.

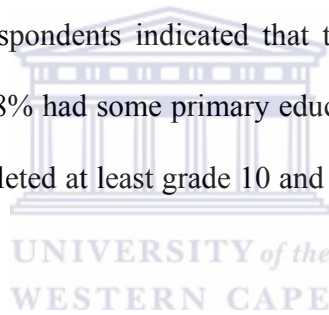
In the second section of the results, factors associated with the observed knowledge, attitudes and behaviours are explored based on further statistical analyses in order to highlight the pattern of relationships in the findings of this study.

## **4.1 Descriptive Analysis**

### **4.1.1 Age and education of respondents**

The ages of the 251 female adolescents on contraception who participated in this study ranged between 13 and 19 years with a median age of 17 years and the interquartile range was 16 to 19 years. The distribution of ages of the respondents is shown in table 2 below and revealed that only 21.5 % of respondents were younger than 16 years.

Furthermore, all respondents indicated that they attained some level of formal schooling. More than half (58.2%) of respondents indicated that they were currently engaged in secondary education while 41.8% had some primary education. 85.6% had completed at least grade 7, 22.4% had completed at least grade 10 and only 8.8% had completed grade 12.



**Table 2: Characteristics of respondents (N=251)**

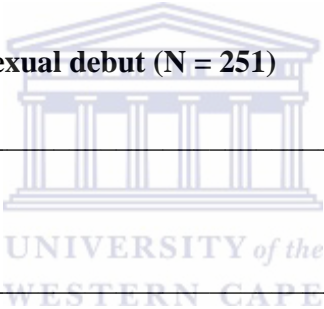
Characteristics	n	Percent
Age (years)		%
13	2	0.8
14	19	7.6
15	33	13.1
16	44	17.5
17	55	21.9
18	23	9.2
19	75	29.9
Current level of education		%
Primary education	105	58.2
Secondary education	146	41.8
Highest grade completed	251	%
12	22	8.8
11	9	3.6
10	25	10
9	21	8.4
8	67	26.7
7	71	28.3
6	16	6.4
5	14	5.6
4	0	0
3	0	0
2	6	2.4
1	0	0

## 4.1.2 Sexual history

### 4.1.2.1 Sexual age debut and condom use

The median age of sexual debut was 15 years and the interquartile range was 14 years to 16 years as shown in the table 2 below. Almost three percent (n= 7) of respondents had a sexual debut younger than 13 years, 33.9% had started sexual intercourse by 14 years and 60.6% started by 15 years (Table 2). Regarding condom use at sexual debut, the majority of respondents (61.4 %) did not use a condom and 38.6% used condom at their sexual debut (Table 3).

**Table 3: Age distribution at sexual debut (N = 251)**



Age at sexual debut (years)		%
11	1	0.4
12	6	2.4
13	25	10
14	53	21.1
15	67	26.7
16	57	22.7
17	28	11.2
18	8	3.2
19	6	2.4

#### 4.1.2.2 Recent sexual activity and condom use

##### Number of partners and condom use

In the 12 months preceding the survey, the majority of the respondents (84.8%) had sexual intercourse, some respondents did not have sexual intercourse (14.7%) and 2.8% did not respond. Of those who responded to the question and who were sexually active (n=213), table 4 below shows that the majority (85.9%) of respondents had only one sexual partner and 12.2% had multiple sexual partners. The number of multiple partners ranged from 2 to 12. Out of the 26 who had multiple partners, 11 had 2 partners, 5 had 5 partners, 4 had 3, and 3 had 7, while 2 had 10 and only one had 12 partners.

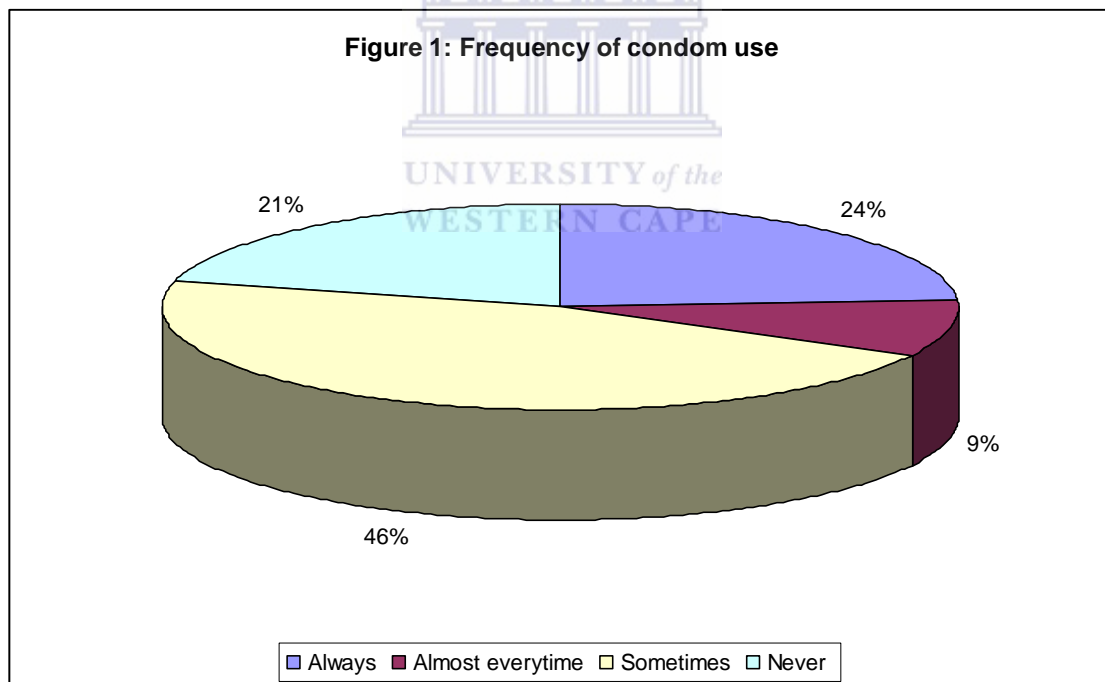


**Table 4: Number of sexual partners in the 12 months preceding the survey (N=213)**

Number of partners	n	%
1	183	85.9
>1	26	12.2
Did not know	4	1.8

Regarding the use of condom by the sexually active participants ( n=213) in the 12 months preceding the survey (figure 1), almost half of respondents used a condom sometimes (46.5%), few respondents or 9.6% used condom almost every time, less than a quarter (23.9%) stated that they had always used a condom, and 20.7%% never used a condom. Furthermore, out of the 213 sexually active, 12.1% of respondents indicated that they suggested the condom use, 7% indicated that their partners suggested the condom use, 25% indicated that it was a joint decision, 2.3% did not know and the majority (52.1%) did not give a response.

**Figure 1: Frequency of condom use (N=213)**

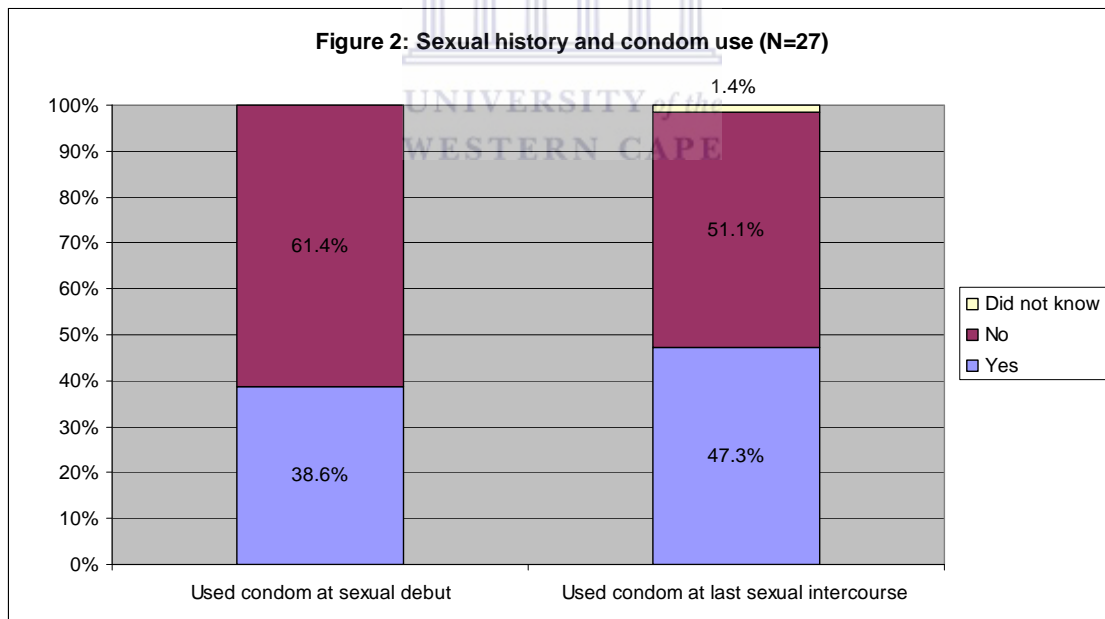




This study further revealed that in the 12 months preceding the survey, 11.7 % (n=27) had sexual intercourse with a casual partner and less than half 48.1% of these 27 used a condom. (Figure 2).

With regard to the use of condom at the last sexual intercourse, the findings of the survey revealed that almost half of sexually active respondents (47.3%) used condom the last time they had sexual intercourse. At the same time, more than half of respondents as well (51.1%) did not use a condom the last time they had sexual intercourse ,1.4% (n=3) did not know (Figure 2).

**Figure 2: Sexual history and condom use (N=27)**

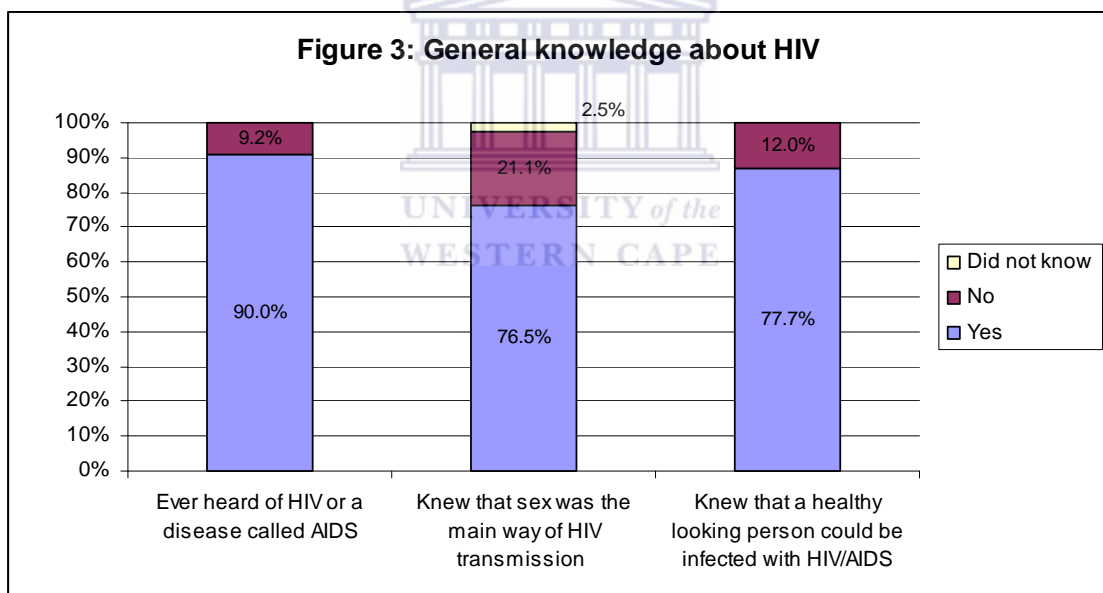


### 4.1.3 Knowledge, perception and attitudes

#### 4.1.3.1 General knowledge about HIV

Most respondents (90%) had heard about HIV or a disease called AIDS, more than three quarter or 76.5% of respondents stated that unprotected sexual intercourse was the main way of one getting HIV/AIDS and more than three quarter (77.7%) knew that a healthy-looking person could be infected with HIV/AIDS.

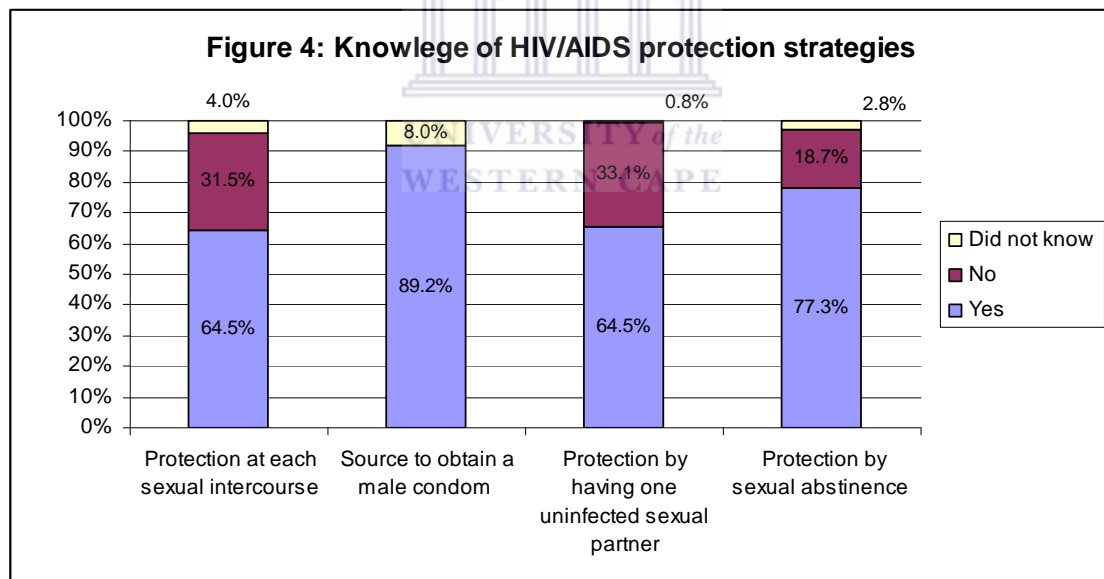
**Figure 3: General knowledge about HIV (N=251)**



#### 4.1.3.2 Knowledge of HIV/AIDS protection strategies

The majority of respondents (64.5%) knew that people could protect themselves from HIV/AIDS at each sexual intercourse and 89.2% knew where (places or person from whom) a male condom could be obtained. More than half of respondents (64.5%) stated that people could protect themselves from HIV/AIDS by having one uninfected faithful sex partner and, 77.3% stated that people could protect themselves from HIV/AIDS by abstaining from sexual intercourse.

**Figure 4: Knowledge of HIV/AIDS protection strategies (N=251)**



Using the composite score based on the questions related to knowledge of HIV protection strategies 74.5% of respondents had adequate HIV protection knowledge and 25.5 % did not.

#### **4.1.3.3 Risky behaviour**

The majority of respondents (83.3%) started sexual intercourse above 16 years but only 38.6% used condom at their sexual debut. Less than a quarter was consistent in condom use in the last 12 months, while almost half of respondents (47.6%) used condom at their last sexual intercourse. Sixty three (63.2% ) of respondents had a low behaviour risk based on composite score of questions related risky behaviour.



## **4.2 Comparative analysis**

In this section the results of testing for an association between the background characteristics of the respondents and firstly, their general HIV knowledge and secondly, their specific HIV protective knowledge are given. Then the relationship between age and education level is investigated. Finally factors associated with condom use at sexual debut and in the last 12 months are explored: background characteristics, knowledge of HIV protection strategies.

### **4.2.1 Association between background characteristics and general knowledge of HIV**

#### **4.2.1.1 Age and general knowledge of HIV of respondents**

There was a significant difference ( $p = 0.0273$ ) between female adolescents aged above 16 years compared to those aged 16 years and below; 93.5% (95% CI 88.3%-96.8%) of respondents aged above 16 years and 84.7% (95% CI 76.0%-91.2%) of those aged 16 years and below heard of HIV or a disease called AIDS. With regard to the question whether a healthy looking person could be infected with HIV, there was no significant difference ( $p = 0.1374$ ) between respondents aged above 16 years and those of 16 years and below; 79.1% (95% CI: 71.8%-85.2%) of respondents aged above 16 years and 75.5% (95% CI: 65.8%-83.6%) of those aged 16 years and below knew that a healthy looking person could be infected with HIV.

Regarding the knowledge of sex as a main way of HIV transmission, which is an important question, there was no significant difference in the knowledge of HIV transmission between respondents of above 16 years and those of 16 years and below ( $p=0.3742$ ). Table below shows that 79.1% of respondents aged above 16 years knew that sex was the main way of HIV transmission and 75.5% of those aged 16 years and below.

**Table 5: Association of age of respondents with their knowledge of sexual intercourse as main way of HIV transmission**

Age	Yes		No		Total	
	n	%	n	%	n	%
16 years and below	74	75.5	24	24.5	98	100
Above 16 years	121	79.1	32	20.9	153	100
Total	195	100	56	100	251	100

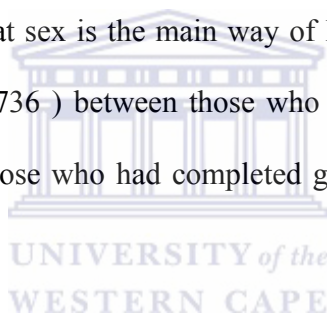
P-value = 0.3742

Chi-square = 1.9821

#### 4.2.1.2 Education and respondent's general knowledge of HIV

Regarding the general knowledge of respondents, there was significant difference (  $p=0.0029$ ) between respondents who completed at grade 9 and those who completed at least grade 8 and below; 97.4% of respondents who completed at least grade 9 have heard of HIV or a disease called AIDS, while 81.5% completed grade 8 and below. Furthermore, 85.7% of respondents who completed grade 9 and above stated that a healthy looking person could be infected with HIV/AIDS and 74.1% completed grade 8 and below. The difference was also statistically significant ( $p = 0.0010$ ).

With regard to the question that sex is the main way of HIV transmission, there was no significant difference ( $p = 0.1736$ ) between those who had completed at least grade 9 who knew this (81.8%) and those who had completed grade 8 and below (74.1%) who had this knowledge (table 6).



**Table 6: Grade completed and knowledge of sex as main way of HIV transmission**

Grade completed	Yes		No		Total	
	n	%	n	%	n	%
Grade 8 and below	129	74.1	45	25.9	174	100
At least grade 9	63	81.8	14	18.2	77	100

## **4.2.2 Association between background characteristics and respondent's knowledge of HIV/AIDS protection strategies**

### **4.2.2.1 Age and respondent's knowledge of HIV/AIDS protection strategy**

There was no significant difference between those of 16 years and below and those of above 16 years ( $p = 0.7643$ ) with regard to their knowledge of HIV/AIDS protection strategies. Almost three quarter (73.5%) of those aged 16 years and below had adequate knowledge and three quarter (75.2%) of those aged above 16 years had adequate knowledge of HIV/AIDS protection strategies. (table 7 below).



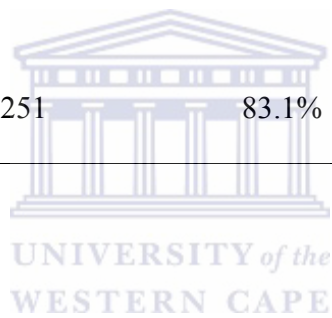
### **4.2.2.2 Education and respondent's knowledge of HIV/AIDS protection strategies**

There was a significant difference between respondents who completed grade 8 and below and those who completed at least grade 9 ( $p = 0.0374$ ) in terms of knowledge of HIV/AIDS protection strategies. Figure 5 below shows that less than three quarter (70.7%) of those who completed grade 8 and below had adequate knowledge of HIV/AIDS protection strategies, while 83.1% of those who completed at least grade 9 had adequate knowledge of HIV/AIDS protection strategy. More than a quarter (29.3%) of those who completed grade 8 and below had inadequate knowledge, while 16.9% of those completed at least grade 9 had inadequate knowledge.



**Table 7: Age, education and adequate knowledge on HIV/AIDS protection strategies**

	n	Yes	No
16 years and below	251	73.3%	26.5%
Above 16 years	251	75.2%	24.8%
Grade 8 and below	251	70.7%	29.3%
At least grade 9	251	83.1%	16.9%



### 4.2.3 Association between background characteristics and condom use.

#### 4.2.3.1 Age and condom use at sexual debut

Table 8 below shows that the older the girls were at sexual debut, the more likely they were to use a condom for the event (from 8% by age 13 to 100% by age 19).

**Table 8: Age and Condom use at sexual debut (N=251)**

---

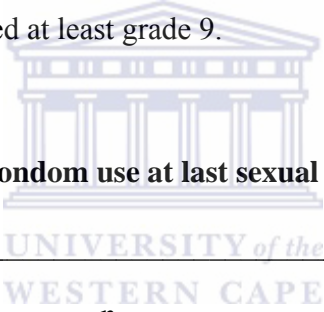
Age at sexual debut	n (number of participants with sexual debut at this age)	Percentage of participants who used condom at this age
11	1	0
12	6	50
13	25	8
14	53	19
15	67	45
16	57	44
17	28	50
18	8	87.5
19	6	100

---

#### 4.2.3.2 Association between background characteristics and condom use

There was not significant difference ( $p=0.6880$ ) in condom use at their last sexual intercourse between respondents aged 16 years and below and those above 16 years. Figure 6 below shows that 43.9% of respondents aged 16 years and below used condom at their last sexual intercourse while 50% were above 16 years. Furthermore, there was again no significant difference between the two age groups of education in terms of sexual intercourse at last sexual intercourse; the same table 9 below shows that 48.6% of respondents who completed grade 8 and below used condom at their last sexual intercourse and 45.5% completed at least grade 9.

**Table 9: Age, education and condom use at last sexual intercourse**



	n	Yes	No
16 years and below	251	43.9%	56.1%
Above 16 years	251	50%	50%
Completed grade 8 and below	251	48.6%	51.4%
Completed at least grade 9	251	45.5%	53.5%

#### 4.2.4 Association between respondent's knowledge of HIV/AIDS protection strategies and condom use

The knowledge of HIV prevention strategies does not translate into the appropriate behavior. The table 10 below shows that almost a quarter (24.1%; 95% CI 18.1%-30.8%) who had adequate knowledge of HIV/AIDS protection strategies and 21.9% (95% CI 12.5%-34%) who had not adequate knowledge were consistent (always) in condom use. The difference was not statistically significant ( $p = 0.5535$ ). Furthermore, fewer respondents who were assessed as having adequate knowledge of HIV/AIDS protection strategies used condom almost every time (9.1% vs. 10.9%) and fewer used condom sometimes (43.9% vs. 51.6%) whilst more never used condoms (23% vs. 15.6%).

**Table 10: Adequate knowledge of HIV/AIDS protection strategies and frequency of condom use**

	n	Yes	No
Always used condom	251	24.1%	21%
Used condom almost every time	251	9.1%	10.9%
Used condom sometimes	251	43.9%	51.6%
Never used a condom	251	23%	15.6%

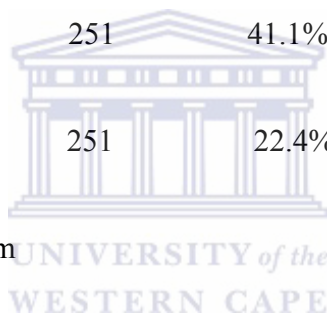
There was significant difference between those who knew that sex was the main way of HIV transmission and those who did not know with regard to consistency of condom use (  $p = 0.0927$ ). The table 11 below shows that 25.5 % of those who knew that sex was the main way of HIV transmission were consistent in condom use ( they always used a condom) vs. 18.9% of those who did not know, 10.9% vs. 5.7% used condom almost every time, 41.1% vs. 64.2% used condom sometimes and 22.4% vs. 11.3% never used condom.

#### **4.2.5 Knowledge of source of male condom and frequency of condom use**

In spite of the knowledge of a source of condom, the majority were not consistent in condom use (74.2%). There was no significant difference between those who knew a source of condom and those who did not know ( $p = 0.1361$ ). Figure 9 below shows that only a quarter (24.1%) of those who knew a source of condom were consistent in condom use vs. 15% of those who did not know any source of condom.

**Table 11: Frequency of condom use**

	n	Yes	No
<b>Knowledge of sex as main way of HIV transmission</b>			
Always used condom	251	25.5%	18.9%
Used condom almost every time	251	10.9%	5.7%
Used condom sometimes	251	41.1%	64.2%
Never used condom	251	22.4%	11.3%
<b>Knowledge of source of condom</b>			
Always used condom	251	24.1%	15%
Used condom almost every time	251	10.1%	10%
Used condom sometimes	251	48%	35%
Never used condom	251	18.3%	40%

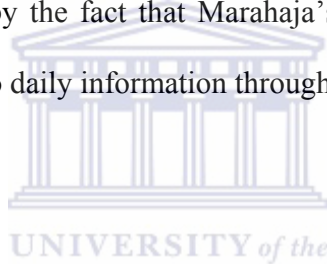


## **Chapter 5 Discussion**

The median age of girls in this study is 17 years, reflecting the older age of girls attending family planning services in Andara District. In Kenya, the use of contraception among adolescents increases with education and age (Ikamari & Towet, 2007). Older the girls are, they are more likely to use contraception. Young sexual debut is found in a considerably larger proportion of female adolescents in this study than that done in the UNICEF study in Namibia (2004). In this study the majority of respondents started sexual intercourse by 15 years while the UNICEF's study showed that only 6% of girls aged 16 to 19 years started sexual intercourse younger than 15. This difference may be explained by the fact that this study concentrated on female adolescents attending family planning services in a rural area sampled from health facilities whilst the UNICEF study used a community sample representing rural and urban areas and didn't select for contraceptive use. This is in line with sexual debut in Kenya with a median of 16 years, while the mode was 15 ( Ikamari & Towett, 2007). This is further confirmed by the study in Tanzania, where the mean of sexual debut among adolescents is 15.5 years (Masatu M. C., Kazaura M. R., Ndeki S. & Mwampambe R. (2007). For most adolescents 15 years is the age of sexual debut. This may be explained by the fact that it is around this age that young girls are going through hormonal changes with sexual desire, leading to the first sexual experience.

In this study, the number of partners is similar to previous studies; Petiffor *et al's* (2003) study revealed that 12.8% of respondents had had more than one sexual partner and this study too, showed that 12.2% had had more than one sexual partner in the last 12 months preceding the survey.

Regarding the use of condom at last sexual intercourse, there was a small difference between this study and that in Kwazulu-Natal. In this study, 47.3% of respondents used condom at their last sexual intercourse and 59% in Maharaj's (2006) study. The little difference may be explained by the fact that Marahaja's study was conducted in town where most girls are exposed to daily information through media, school, clinics.



In Andara, the setting is poor with less means of communication and most youth receive the HIV information and protection strategies through schools, community mobilization and some from media. Although on the one hand 46.5% condom use sometimes is less than that in Kwazulu-Natal, many will agree that it is encouraging that so many young people are already using condoms. This can be used to motivate further condoms use. Consistent condom use is required for effective protection against HIV. The two studies are not consistent with the findings of the study conducted in Ethiopia where only 22.7% of male youth and 10.4% of female youth used condom at their last sexual act (Maria, 2007). More education and information are needed in Ethiopia among youth.



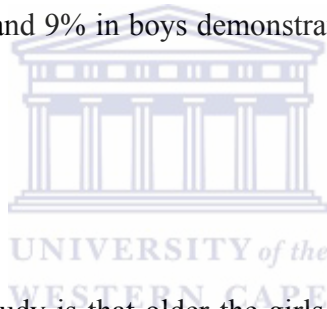
This study further showed that the knowledge of respondents (64.5%) of protection at each sexual intercourse is less than the 72% in Tanga's study (Ikamba & Ouedraogo, 2003) and the 86.4% in Kwazulu-Natal (James, Reddy, Taylor & Jinabbai, 2004). It is disappointing that almost more than a quarter of those sexually active who attend the family planning services did not know that one could protect her/himself at each sexual intercourse. This suggests that the family planning services do not present comprehensive health education in a manner that is accessible and effective to young people.

Older girls tend to have more information on HIV/AIDS. This is in line with Dreisbach & Raharison's (2007) findings where the determinants of women's HIV knowledge and behaviour showed that older women were significantly more knowledgeable about HIV prevention than women aged 15-20 years in Madagascar. This is also true for Lesotho where 77.1% of youth aged 15-19 vs 83% aged 20-24 knew that there was a way to prevent HIV/AIDS (Lesotho Demographic and Health Survey, 2004).

Education level is also associated with HIV knowledge: the respondents who completed at least grade 9 have greater general knowledge of HIV (81.8%) as well greater knowledge of HIV protective strategies (83.1%). The school-based HIV prevention programme called "My future is my choice" is conducted in afternoons in secondary school (from grade 8). The program should be introduced to primary schools too, given the young sexual debut.

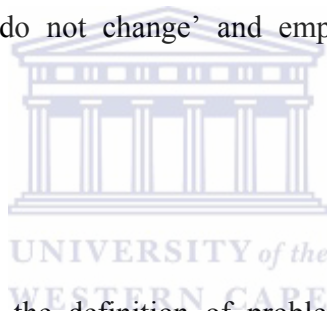
Also the 2001 Namibian census showed that 53 % of the population don't reach secondary school and therefore many don't benefit. Another way of extending the access to the programme would be to take the education messages and skills, regarding safer sex, to the all youth in the district; to churches, youth centres and community gatherings.

These findings are in line with bankole et al (2007)'s study; sex education in schools show that the majority of 12-14 year olds did not receive family life or sex education, resulting in low in-depth knowledge about HIV transmission and prevention strategies. For example only 5% of girls and 9% in boys demonstrated in-depth knowledge on HIV transmission and prevention.



An important finding in this study is that older the girls were at sexual debut, the more likely they were to use a condom. This study has not explored the reasons for this, which may be related to increased knowledge or their confidence and ability to negotiate condoms with their partners. However the study does highlight the importance of promoting delayed sexual debut as a way of reducing exposure to HIV risk.

Whilst there is some evidence that knowledge supports behavior (for example the association between knowledge that sex is the main way of HIV transmission and consistency in condom use) on most parameters there seems to be a gap between knowledge and behavior. This study is consistent with Petiffor *et al's* (2003) study; only 29% of respondents, who knew that condom use could protect HIV transmission, were consistent in condom use. Furthermore, almost three quarter (74. 2%) of those who knew a source of condom was not consistent in condom use. That is why Cletand & Waltins (2006) stated that AIDS control programmes currently appear to be approximately at the same stage reached in 1980 by the family planning movement. As in earlier decades the refrain 'they know but they do not change' and emphasis is given to obstacles to behaviour change.



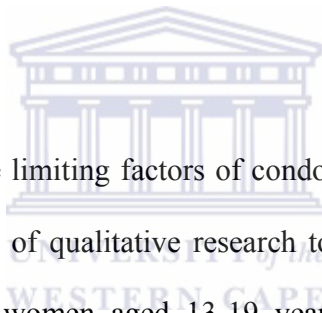
For the behaviour to change, the definition of problem and solutions must be first domesticated, a process where that occurs in local social networks where international and national messages are evaluated and re-interpreted. Many will agree that the motivation of the behaviour should be tackled first in appropriate setting to expect behaviour change. For instance, radical revolutions in the economic structure of societies and in gender relations, to address poverty and gender inequalities are necessary to effect behaviour change.

Allen & Heald (2004) stated that human behaviour rarely changes with health education alone. They came to this conclusion after they had compared the failure of early programmes in Botswana and the relative success in Uganda with regard to condom use. In Botswana, condom promotion provoked antipathy from church groups, local leaders, parents and chiefs, while in Uganda, the fact that condoms were not initially introduced and the President's negative attitude towards them played a role in the social acceptance of behaviour change messages. Also the coercive measures in Uganda by local groups had contributed to behaviour change. Many will agree that health education must be part of behaviour change strategy, along with political commitment and where necessary coercive measures.



Although health systems provide services to the community, they might play a negative role in the knowledge of HIV/AIDS facts and lack of condom use among adolescents. For instance Andara district hospital being a Catholic Hospital is under the influence of Bishop and the local Parish Priest. They feel that placing condoms around the hospital at the pharmacy, in OPD and casualty department is not acceptable because it is encouraging promiscuity. In the same vein nuns nurses are discouraging adolescents to access contraception and not willing to provide sexual education due to their beliefs. Hence health systems might be contributing factors of poor services utilization. This is in line with the findings of French (2002) revealing that many respondents among young people noted that they felt that they were rushed through the service and did not feel that they were given opportunity to ask questions.

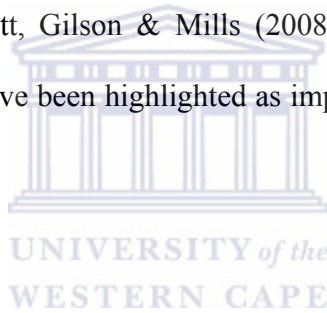
It is necessary that adolescents are given chances to ask questions at their satisfaction to enable them understand sexual health and sexually transmitted diseases, including HIV to make right decisions. Furthermore, Glasier, Gulmezoglu, Schmid, Moreno & Van Look (2006) stated that sexual and reproductive health services are absent or of poor quality and underused in many countries because discussion of issues such as sexual intercourse make people feel uncomfortable. The increasing influence of conservative political, religious, and cultural forces around the world threatens to undermine progress made since 1994, and provides the best example of the detrimental intrusion of politics into public health.



Culture and beliefs can also be limiting factors of condom use. Wood & Jewkes (2006) conducted a systematic review of qualitative research to examine the limits to modern contraceptive used by young women aged 13-19 years in developing countries and revealed that adolescents were limited in condom use due to its association with disease and promiscuity. The same study revealed that Nurses' attempts to stigmatise teenage sexuality, their scolding and harsh treatment of adolescent girls and their unwillingness to acknowledge adolescents' experiences as contraceptive users, jeopardise the effective use of contraception among adolescents.

Furthermore, Bakeera et al (2009)'s study on community perceptions and factors influencing utilization of health services in Uganda revealed that the community expressed the negative attitude of health workers as barriers to services utilization; *“the health workers treat us badly like we are human beings, they may not even be bothered if someone dies compared to the traditional attendants who treat people humanely. In hospital they slap us and say “to avoid disturbances let’s do the caesarean operation. This brings fear and scepticism in using the service ” they said.*

This is consistent with Bennett, Gilson & Mills (2008) stating that the attitudes and behaviour of health workers have been highlighted as important system health barriers to access by many studies.



The attitude and behaviour of health workers might affect even adolescents seeking services in health facilities. Many will agree that adolescents need appropriate information for right decisions making with regard to sexuality and reproductive health, and this should come from health workers. There is need to ensure that in all health facilities are adolescent-friendly and do not stigmatize adolescent sexual activity.

Regarding the sexual partners, the majority (85.9%) of respondents had only one sexual partner. Whilst being faithful to partners is an important HIV prevention strategy, it must be emphasised that both partners are to faithful and know their HIV status too, otherwise the girls are still at risk.

In this study, some limitations were noted; 12.7% of respondents stated not to have had sexual partners in the last twelve months preceding the survey. It might be that some were using contraceptive to regulate their periods. Alternatively it might be that some are actually sexually active but are denying it because they could be embarrassed by the question and by the interviewers whom they could have known before. This situation would affect the validity of the results. Furthermore, in this study, attention was not paid within a political debate that is currently within health systems between family planning programmes, which favours the use of oral and injectable contraceptives, and HIV prevention programmes, which promote condom use. Instead the study is situated within a solely individualistic perspective, where individual cognition alone is assumed to be the contributor to the observed phenomenon. Finally since the Advanced Epidemiology and Biostatistics is not required for MPH students, it is hardly expected from MPH candidate to understand the complexity of sample size calculation. Furthermore, the translation from English to the local language could loose the meaning of some questions limiting the understanding of respondents.

Whilst it is interesting that all respondents who stated they started sexual intercourse at 19 years had used a condom, the sample size is too small ( $n=6$ ) for the results to be reliable. Similarly only 27 respondents had had a casual sexual partner. This is different from Ethiopia where less than 1% (0.8%) of female adolescents aged 15-19 years ( $n=904$ ) and 1.2% of youth aged 18-19 years ( $n=572$ ) used condom at their sexual debut (Ethiopia Demographic and Health Survey, 2006).

Although the sample in Namibia was too small, the rate of condom use in Ethiopia at sexual debut is also too low. More education, information and prevention strategy messages are really needed in Ethiopia.

With regard to age of respondents and grade completed, there is a significant difference in age of those who completed grade 8 and below; 94.9% ( $n= 93$ ) were 16 and younger and 5.1% ( $n=5$ ) were above 16. Therefore, age is a confounder. The confounder age can lead to over- or under-estimation. This situation could be avoided by stratifying age in age groups called strata (13-14, 15-16, and 17-18, 19) in order to get a clear picture of grade completed by respondents.

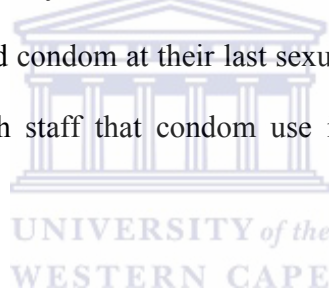


## Chapter 6 Conclusions and recommendations

### 6.1 Conclusions

The general HIV knowledge of respondents and their knowledge of how to protect themselves from HIV infection was disappointing given that this study was conducted in a health facility setting. The health services need to evaluate the targeting and effectiveness of their HIV educational messages.

Although condom use in this study was found to be inconsistent, it is encouraging that almost half of respondents used condom at their last sexual intercourse. This can be used to encourage youth and health staff that condom use is possible and to increase the number of condom users.



In this study we see that knowledge does not always translate into the appropriate behaviour; only a quarter of respondents with adequate knowledge of HIV/AIDS protection strategies were consistent in condom use. The health services need to consider ways of empowering girls to use their knowledge to protect themselves from HIV infection. Skills such as negotiating condom use with partners might be helpful. This study has found that older girls and those who completed at least grade 9 have greater knowledge of HIV/AIDS protection strategies ( $p = 0.0374$ ), and tend to use condom more often than the younger group. It is therefore important to promote the message of delayed sexual activity as HIV prevention strategy.

## 6.2 Recommendations

The findings of this study lead to the following recommendations:

All female adolescents who attend the primary care services should be targeted for comprehensive HIV education emphasising prevention strategies and life skill development. All health facilities should also provide condoms to all female adolescents at their monthly visit in the district.

Further training should be provided to all health workers on HIV/AIDS prevention education and skill development in order to motivate them and to build their capacity to educate all clients effectively.

The Policy makers from the Directorate of special programmes should develop a comprehensive Family Planning policy framework that incorporates HIV/AIDS and other STI prevention interventions. The policy should include the extension and implementation of HIV/AIDS and FP education from grade 5 with a specific objective of delaying the onset of sexual activity and promoting condom use.

Future research to assess health education programmes in all health facilities should focus on whether comprehensive health education that includes HIV is being provided and on the manner in which it is provided.

## Reference List

Agha, S., Kusanthan, T., Longfield, K., Klein, M. & Berman, J. (2002). *Reasons for Non-use of Condoms in Eight Countries in Sub-saharan Africa*. [Online], Available: <http://www.psi.org/research/wp/WP49.pdf>. [Downloaded 20/04/07 05:00 PM].

Allen, T. & Heald, S. (2004). *HIV/AIDS policy in Africa: what has worked in Uganda and what has failed in Botswana?* J Intl Develop 2004; 16:1141-1154.

Bakeera, S.K., Wamala, S.P., Galea, S., State, A., Peterson, S. & Pariyo, G. W. (2009). *Community perceptions and factors influencing utilization of health services in Uganda*. International Journal for Equity in Health 2009, 8:25 [Online], Available: <http://www.equityhealth.com/content/8/1/25> [Downloaded 01/10/09: 09:47 AM].

Bankole, A., Biddlecom, A., Guiella, G., Singh, S & Zulu, E. (2007). *Sexual Behavior, Knowledge and information Sources of Very Young Adolescents in Four Sub-Saharan African Countries*. [Online], Available: <http://www.Pubmedcentral.nih.gov/articlerender.fcgi?artid=2367131> [Downloaded 01/10/09: 02: 00 PM]

Beaglehole, R., Bonita, R & Kjellstron, T (1993). *Basic Epidemiology*. Geneva: WHO.

Bennet, S., Gilson, L. & Mills, A (2008). *Health, economic development and household poverty: from understanding to action*. [Online], Available: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2586358> [Downloaded 02/10/09: 09: 05 PM]

Cledan, J. & Waltins, S. C. (2006). *The key lesson of family planning programmes for HIV/AIDS control*. AIDS 2006, 20:1.

Dreisbach, C. & Raharison, S. (2007). 2005-2006 *Baseline Assessment for the CRTU Program: Reproductive Health and Family Planning in Madagascar*.

French, R.S. (2002). *The experience of young people with contraceptive consultation and health care workers*. Int J Adolesc MeHD Health. 2002; 14(2): 131-8.

Glazier, A., Gulmezoglu A.M., Schmid G. P., Morena, C. G & Van Look P.F. *Sexual reproductive health: a matter of life and death*. Lancet. 2006 Nov 4; 368(9547): 1591-607.

Gutmacher Institute (2006). *Adolescents sexual and reproductive health in Ghana: Results from 2004 National Survey of Adolescents*. Accra. Ghana.

Ikamba, L.M. & Ouedraogo, B. (2003). *High-Risk Sexual Behaviour: Knowledge, Attitudes and Practice Among Youths at Kitchangani Ward, Tanzania*. [Online], Available: <http://www.fhs.edu.au/arow/arer/018.htm> [Downloaded: 20/03/07 08:01 PM].

Ikamani L.D.E. & Towett R. (2007). *Sexual initiation and contraceptive among female adplescents in Kenya*. African Journal of Health Sciences, Volume 14, Numbers 1-2, January-June 2007.

James, S., Reddy, S. P., Taylor, M. & Jinabbai, C.C. (2004). *Young people, HIV/AIDS/STIs and Sexuality in South Africa: the gap between awareness and behavior*. [Online], Available: <http://www.blackwell-synergy.com/doi/pdf/10.1111/j.1651-2227.2004.tb00718.x> [Downloaded 25/06/07: 10: 45 AM].

Katzenellenbogen, J. M., Joubert, G. & Abdool Karim, S.S. (1997). *Epidemiology: A Manual for South Africa*. Cape Town: Oxford University Press.

Mafune, P. (2005). *Myths about condoms and HIV/AIDS in rural northern Namibia*. [Online], Available: <http://www.blackwell-synergy.com/doi/pdf/10.1111/j.1468-2451.2005.00584.x> [Downloaded 25/06/07: 05: 04 PM].

Maharaj, P. (2006). *Reasons for Condom Use Among Young People in Kwazulu-Natal: Prevention of HIV, Pregnancy or Both? International Family Planning Perspectives* 32(1): 28-34

Maria, W. (2007). *Sexual behavior, knowledge and Awareness of Related Reproductive Health Issues among Single Youth in Ethiopia*. African Journal of Reproductive Health, vol. 11, No. 1, April, 2007, pp. 14-21.

Masatu M. C., Kazaura M. R., Ndeki S. & Mwampambe R. (2007). *Predictors of Risky Sexual Behaviour among Adolescents in tanzania*. Springer Science+Business Media, LLC 2007 [ Online], Available: <http://www.springerlink.com/index/2Q04523130501G61.pdf> [ Downloaded 28/09/09: 09:00 AM].

MOHSS (Ministry of Health and Social Services), Government of Namibia. (2005). *Report of the 2004 National HIV Sentinel Survey*. Ministry of Health and Social Services, Windhoek (Namibia).

MOHSS, Government of Namibia. (2007). *Report of the 2006 National HIV Sentinel Survey*. Ministry of Health and Social Services, Windhoek (Namibia).

MOHSS, Government of Namibia. (2008). *Demographic and Health Survey 2006-07*. Windhoek (Namibia).

MOHSS, Government of Lesotho. (2004). *Report on Demographic and Health Survey*. Ministry of Health and Social Services, Maseru (Lesotho).

MOHSS, Government of Ethiopia. (2006). *Report on Demographic and Health Survey*. Ministry of Health and Social Services, Addis Ababa (Ethiopia).

MOHSS. Government of Zambia. (2007). *Preparing for the Microbicide Access Zambia Country Profile 2007*. Lusaka (Zambia).

Mturi, A.J. and Hennink, M.M. (2005). “*Perceptions of Sex Education for young people in Lesotho.*” *Culture, Health and Sexuality*, 7(2) [Online], Available: <http://www.informaworld.com/index/713949298.pdf> [Downloaded 28/09/09: 10:13 AM].

Mturi, A.K. and Moerane, W. (2001). “*Premarital Childbearing Among Adolescents in Lesotho.*” *Journal of South African Studies* 27(2): 259-275 [Online], Available: <http://www.allacademic.com/pages/p183799-22.php> [Downloaded 28/09/09: 10: 20 AM].

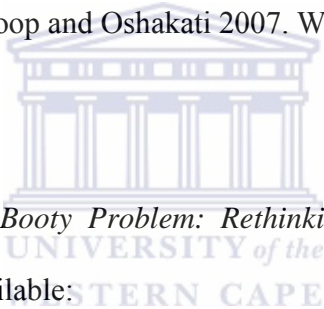
Pettifor, A., Measham, D., Rees, H., Padian, N., Steffenson, A., Hlongwa-Madikizela, L., MacPhail, C., Vermaak, K., Lutalo, T., Nalugoda et al (2003). *Sexual Power and HIV risk, South Africa*. [Online], Available: <http://www.cdc.gov/ncidod/EiD/vol10no11/04-0252.htm> [Downloaded 25/04/07 06:15 PM].

National AIDS Commission of Rwanda. *National Strategic Framework for the Fight Against AIDS, 2004-2009*, Januray, 2004.

Neema, S., Ahmed, F.H., Kibombo, R. & bankole, A. (2006). *Adolescents Sexual and Reproductive Health in Uganda: Results from the 2004 National Survey of Adolescents*.

Nishimura, Y. H., Ono-Kihara, M., Mohith, J. C., NgManSun, R., Homma, T., Diclemente, R. J., Lang D. L. & Kihara M. (2007). *Sexual behaviour and their correlates among young people in Mauritius: a cross-sectional study*. BMC Int Health Hum Rights. 2007:7:8.

Parker, W. & Connolly, C. (2007). *NAMIBIA: HIV/AIDS Community Survey Report: Rundu*, Walvis Bay, Keetmanshoop and Oshakati 2007. Windhoek: NawaLife Trust.

Saletan, W.(2007). *The Mind-Booty Problem: Rethinking the age of sexual consent*. Washington,USA.[Online],Available:  <http://www.cdc.gov/m111.sjlibrary.org/nchs/data/ad/ad362.pdf> [ Downloaded 03/04/09: 10: 05 AM].

Seifu, A., Fantahun, M.& Worku, A. (2006). *Reproductive Health Needs Out-of-school Adolescents: A Cross-sectional Comparative Study of Rural and Urban Areas in Northwest Ethiopia*. Addis Ababa, Ethiopia.[Online], Available : <http://www.cih.uib.no/ejhd/Reproductivehealthneeds/school/Adolesc.pdf> [Downloaded 20/04/07: 09:05 PM].



Unicef.(2003). *Knowledge, Attitudes and Practice linked to HIV Prevention in Young Children and Adolescents*. Lemba,Ana,HIV/AIDS Manager, SCUK-Angola. [Online], Available: [http:// www.guttmacher.org/pubs/journals/3119205.html-40k](http://www.guttmacher.org/pubs/journals/3119205.html-40k) [Downloaded 20/04/07: 10:03 PM].

UNAIDS (2004). *Report on the Global AIDS Epidemic*. Geneva. Switzerland.

UNAIDS (2006). *Report on the Global AIDS Epidemic*. Geneva. Switzerland.

UNAIDS (2008). *Report on the Global AIDS Epidemic*. Geneva. Switzerland.

UNAIDS (2009). *A Strategic Approach: HIV & AIDS and Education*. Geneva. Switzerland.

WHO (2006). *Behaviour Surveillance Survey*. Geneva. Switzerland.

Wood, K. & Jewkes, R. (2006). *Blood blockages and scolding nurses: barriers to adolescents contraceptive use in South Africa*. *Reproductive Health Matters*. 2006 MAY: 14(27): 131-8.

## Appendix 1: Questionnaire

### 6.3 Section 1: Background characteristics

No	Questions and filters	Coding categories
01	How old were you at your last birthday	Month <input type="checkbox"/> <input type="checkbox"/> Do not know month 98 Year <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Do not know Year 99
02	Have ever attended school?	Yes 1 No 2
03	What is the highest level of school you attended: primary, secondary, or higher?	Primary 1 Secondary 2 Higher 3
04	How many years of education did you complete up to now?	Years completed <input type="checkbox"/> <input type="checkbox"/>

#### 6.4 Section 2: Sexual history: number and types of partners

No	Questions and filters	Coding categories
05	Have you ever had sexual intercourse?	Yes 1 No 2
06	At what age did you first have sexual intercourse?	Age in years □ □
07	Was a condom used during this first time you had sexual intercourse?	Yes 1 No 2 Do not know 8 No response 9
08	Have you had sexual intercourse in the last 12 months?	Yes 1 No 2 No response 9
09	Think about the male sexual partners you have had in the last 12 months How many were : Commercial (partners with whom you had sex in exchange for money)  Non-commercial (Any partner other than a commercial partner)	Commercial □ □ Don't know 88 No response 99  Non-commercial □ □ Don't know 88 No response 99

### 6.5 Section 3: Commercial partners

No	Questions and filters	Coding categories																																	
10	Had sexual intercourse with a commercial partner in the last 12 months... <input type="checkbox"/>	Has not had sexual intercourse with a commercial partner in the last 12 months... <input type="checkbox"/>																																	
11	Think about your most recent sexual partner. How many times did you have sexual intercourse with this person over the last 30 days?	Number of times <input type="checkbox"/> <input type="checkbox"/> Do not know 88 No response 99																																	
12	The last time you had sex with this commercial partner, did you and your partner use a condom?	Yes 1 No 2 Don't know 8 No response 9																																	
13	Who suggested the condom that time?	Myself 1 My partner 2 Joint decision 3 Don't know 8 No response 9																																	
14	Why didn't you and your partner use a condom that time?	<table border="0"> <tr> <td></td> <td>Y</td> <td>N</td> </tr> <tr> <td>Not available</td> <td>1</td> <td>2</td> </tr> <tr> <td>Too expensive</td> <td>1</td> <td>2</td> </tr> <tr> <td>Partner objected</td> <td>1</td> <td>2</td> </tr> <tr> <td>Don't like them</td> <td>1</td> <td>2</td> </tr> <tr> <td>Used other contraceptive</td> <td>1</td> <td>2</td> </tr> <tr> <td>Didn't think that it was necessary</td> <td>1</td> <td>2</td> </tr> <tr> <td>Didn't think of it</td> <td>1</td> <td>2</td> </tr> <tr> <td>Other</td> <td>1</td> <td>2</td> </tr> <tr> <td>Don't know</td> <td>1</td> <td>2</td> </tr> <tr> <td>No response</td> <td>1</td> <td>2</td> </tr> </table>		Y	N	Not available	1	2	Too expensive	1	2	Partner objected	1	2	Don't like them	1	2	Used other contraceptive	1	2	Didn't think that it was necessary	1	2	Didn't think of it	1	2	Other	1	2	Don't know	1	2	No response	1	2
	Y	N																																	
Not available	1	2																																	
Too expensive	1	2																																	
Partner objected	1	2																																	
Don't like them	1	2																																	
Used other contraceptive	1	2																																	
Didn't think that it was necessary	1	2																																	
Didn't think of it	1	2																																	
Other	1	2																																	
Don't know	1	2																																	
No response	1	2																																	
15	With what frequency did you and all your commercial partners use a condom over the last 12 months	Every time 1 Almost every time 2 Sometimes 3 Never 4 Don't know 8 No response 9																																	

## 6.6 Section 4: Non-commercial partners

No	Questions and filters	Coding categories
16	Had non-commercial sex partner during last 12 months..... <input type="checkbox"/>	Did not have non commercial sex partner during the last 12 months. <input type="checkbox"/>
17	Think about your recent non-commercial partner. How many times did you have sexual intercourse with this person over the last 30 days	Number of times <input type="checkbox"/> Don't know 88 No response 99
18	The last time you had sex with this non-commercial partner, did you and your partner use a condom?	Yes 1 No 2 Don't know 8 No response 9
19	Who suggested condom use that time?	Myself 1 My partner 2 Joint decision 3 Don't know 8 No response 9
20	Why didn't you and your partner use a condom that time?	Y N Not available 1 2 Too expensive 1 2 Partner objected 1 2 Don't like them 1 2 Used other Contraceptive 1 2 Didn't think it was Necessary 1 2 Didn't think of it 1 2 Other 1 2 Don't know 1 2 No response 1 2
21	With what frequency did you and all of your non-commercial partner(s) use a condom over the last 12 months?	Every time 1 Almost every time 2 Sometimes 3 Never 4 Don't know 8 No response 9

## 6.7 Section 5: Male condom

	Questions and filters	Coding categories
22	Condoms not used .... <input type="checkbox"/>	Condoms used..... <input type="checkbox"/>
23	Have you and a sexual partner ever used a male condom? (show a picture or sample of one)	Yes 1 No 2 Don't know 8 No response 9
24	Have you ever heard of a male condom? (show picture or sample)	Yes 1 No 2 Don't know 8 No response 9
25	Do you know any place or person from which you can obtain male condoms?	Yes 1 No 2 No response 9
26	Which places or persons do you know where you can obtain male condoms? Probe and record all answers Any others	Y N Shop 1 2 Pharmacy 1 2 Market 1 2 Clinic 1 2 Hospital 1 2 FP centre 1 2 Bar/Guest/Hotel 1 2 Peer education 1 2 Friend 1 2 Other 1 2 No response 1 2
27	During the past 12 months, did you ever have sexual intercourse without using a condom with any commercial partner or any other sexual partner who you have never lived with and are not married to?	Yes 1 No 2 Don't know 8 No response 9

## 6.8 Section 6: Knowledge, opinions and attitudes

No	Questions and filters	Coding categories
28	Have you ever heard of HIV or a disease called AIDS?	Yes 1 No 2 No response 9
29	Can people protect themselves from HIV, the virus that causes AIDS every time they have sex?	Yes 1 No 2 Don't know 8 No response 9
30	Can a person get the HIV virus from mosquito bites?	Yes 1 No 2 Don't know 8 No response 9
31	Can people protect themselves from HIV by having one uninfected faithful sex partner?	Yes 1 No 2 Don't know 8 No response 9
32	Can people protect themselves from HIV by abstaining from sexual intercourse	Yes 1 No 2 Don't know 8 No response 9
33	Can a person get HIV by getting injections with a needle that was already used by someone else?	Yes 1 No 2 Don't know 8 No response 9
34	Do you think that a healthy-looking person can be infected with HIV, the virus that causes AIDS?	Yes 1 No 2 Don't know 8 No response 9
35	Do you think that a person can get infected with HIV/AIDS by unprotected sexual intercourse	Yes 1 No 2 Don't know 8 No response = 9