

**Perceptions of South African teenagers on HIV counselling and testing (HCT) at an
Eastern Cape School**

Dissertation submitted in partial fulfilment for the award of a

Masters degree in Counselling Psychology

By:



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Declaration

I, Veronica Fray, hereby declare that the work I hereby submit as partial fulfilment for the degree of Master's degree in Counselling Psychology is original, except where acknowledgements through referencing indicate otherwise.

Signed

Date



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Abstract

HIV counselling and testing has long been identified and used as an important entry point around the world in trying to minimise the impact of HIV, particularly on vulnerable populations. South Africa is one of the countries in the world most affected by HIV, and despite concerted governmental efforts to try to contain the disease since the 1990's; it remains a threat to the South African population today. Teenagers are a particularly vulnerable group, as they have been found to often engage in behaviours without apparent regard for the consequences of such actions. With the government's recent upscale of HIV counselling and testing, through its largest national HCT campaign which includes school learners, this study aimed at establishing the perceptions of high school learners through a KABP survey. The study found that while learners may have the necessary knowledge of HIV/ADS, this did not necessarily determine their sexual behaviour or attitudes. Variations were also found in terms of their developmental needs, with possible implications for testing campaigns. Finally, a lack of trust that confidentiality would be maintained may seriously limit uptake of such a service at schools.



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Chapter 1

Introduction

This chapter introduces the study as situated within a South African context.

The state of the nation

Sub-Saharan Africa constitutes 11% of the world population but has more than two-thirds of the burden of the HIV infections (Kaiser Family Foundation, 2008). This means that of the 33 million people currently infected with HIV around the world, around 22 million can be found in sub-Saharan Africa (United Nations AIDS, 2010). The population of South Africa is currently estimated at 49, 99 million. Of this, 5.24 million are living with HIV/AIDS, more than any country in the world, with a prevalence rate of 10.5% (total percentage of the population affected) (Kaiser Family Foundation, 2008). This, however, is not necessarily a true reflection of the magnitude of the HIV epidemic in South Africa since these statistics are largely based on antenatal data collection adjusted for the general population (Statistics South Africa, 2010). When compared with some of the most populated countries in the world, the gravity of the situation is even more daunting. India, for example has an overall population of over 1,2 billion, but the number of people living with HIV/AIDS is almost half of that of South Africa at around 2,4 million (Index Mundi, 2009). After nearly three decades of dealing with the spread of this virus and the impact on society, more concerted efforts to at least contain the disease have become pivotal to the survival of the South African people.

How has the South African government responded to the HIV epidemic?

Since 1994 the South African Government has tabled policies and protocols in response to the burden of HIV on the South African society. In 2000 the first HIV & AIDS and Sexually Transmitted Infections (STI) National Strategic Plan (NSP) was put forward as a national framework for HIV prevention and disease management (HIV And AIDS And STI Strategic Plan For South Africa, 2007-2011, 2007). This five year plan is put together every five years at Cabinet level under the guidance of the South African National AIDS Council (SANAC), the national level body on HIV/AIDS made up of both government and non-government organisations. The latest NSP-2007-2011, in consultation with UNAIDS and in line with World Health Organisation (WHO) guidelines, has as its primary goal to reduce the incidence

of HIV by 50% and increase the use of those needing antiretrovirals (ARV's) to 80% by 2011. In March 2010 Cabinet announced its largest ever roll-out for HIV Counselling and Testing (HCT) aimed at testing 15 million South Africans by June 2011 toward achieving its NSP. It would combine aspects of Voluntary Counselling and Testing (VCT) and Provider-initiated counselling and testing (PICT) and co-opt the assistance of both private and public health sectors as means of improving healthcare in general in its implementation and would extend to testing of children from age 12 years at high schools through a phase-in process (SANAC, 2010). The campaign is based mainly on two aspects: the first is that according to general global consensus, counselling and testing was identified as the most important prevention strategy in HIV prevention and spread (WHO|HIV testing and counselling, 2011). Secondly, despite the upscale in VCT mobilisation around the country, VCT uptake remains low, meaning that many South Africans do not know their HIV status (Hutchinson & Mahlalela, 2006; Van Dyk & Van Dyk, 2003). Thus the HCT campaign has as its primary goal that most South Africans will know their HIV status by the end of the campaign, with the assumption that this will reduce the spread and reduce the number of new infections while providing an opportunity for increased ARV distribution (SANAC, 2010).



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Background to Research Problem

Counselling and testing have been identified as one of the most important ways of reducing the spread of HIV around the world. The World Health Organisation has identified a number of ways in which this may be done in an attempt to determine the most effective one which renders maximum impact. Sub-Saharan Africa is plagued not only with the highest incidence of HIV but also with highest prevalence. South Africa, for example, has the highest number of people living with HIV than any country in the world while Swaziland has the highest global prevalence rate (Kaiser Family Foundation, 2008). WHO has set out epidemic protocols according to prevalence where rates above 1% are regarded as low and generalised where prevalence rates consistently exceed 10% (WHO|HIV testing and counselling, 2011). It was found that almost all the countries in Sub-Saharan Africa have generalised epidemics with a number of countries including South Africa (Kaiser Family Foundation, 2008). At present extrapolating the incidence of HIV incidence and prevalence from antenatal data is an accepted practice leading to age categories from age 15 years and up (UNAIDS, 2010; Statistics South Africa, 2010). In general, youth is defined in this way from 15-24 years and

very little research exists on teenagers below the age of 15 years and their sexual activity and risk to HIV exposure. Rather, a broad category for children aged 0-14 years exists, making it difficult to determine the sexual behaviour and subsequent HIV risk of teenagers between the ages of 12 and 14 years. Recently the South African government dropped the age of consent to HIV testing to 12 years, and its comprehensive HCT campaign is aimed at testing school children from 12 years at testing sites on school grounds (SANAC, 2010; Plus News, 2011). It has since postponed its official launch of school testing with a task team set up to investigate the potential ramifications of HIV testing on children under the age of 15 years.

Aim and rationale

A commonly held belief around knowledge is that it will translate into an action, that we would do something, or something different, if only we have the knowledge. Knowledge is therefore considered central to our decision-making process and to effecting behaviour change. This is also the basis of the motivation around VCT (and HCT): that knowledge of HIV/AIDS and of one's HIV status be it positive or negative, will promote safer sexual behaviour (AIDSbuzz, 2011). The fact that we are still fighting a seemingly losing battle, evidenced by progressively more aggressive strategies such as the current HCT campaign in our country, calls this belief into question. One group in society constantly in the midst of competing beliefs and choices are teenagers, more so when it comes to sex. Caught between two worlds of childhood and adulthood, they experience a range of internal and external conflicts. In the eyes of the law they are often classed as children and subject to respective restrictions while getting messages from an array of sources that they are growing up, are not children and should take more responsibility. Consequently, they rarely subscribe to social norms such as abstaining from sex before marriage or restrictions on underage drinking and drug use, apparently engaged in their own subculture of risky behaviour and peer influence (Dacey & Travers, 2002).

This study therefore aims to assess the perceptions of South African teenagers through a Knowledge, Attitude, Beliefs & Practice (KABP) survey to determine the potential efficacy of HCT in schools and how this may be specifically tailored to meet the unique needs of this group.

Research question (s)

1. Does knowledge of HIV status by South African teenagers translate into changes in their sexual practices as evidenced by the KABP survey results?
2. Are there differences between the groups or grades in terms of (1)?
3. Do gender differences exist in terms of (1)?

Research hypotheses

1. Knowledge of HIV is related to healthy sexual practices.
2. HIV knowledge and behaviour is affected by adolescent development.
3. Boys and girls differ in terms of putting their knowledge into practice.

Objectives of the study

1. To determine whether adolescents' knowledge of HIV is applied to sexual behaviour practices.
2. To determine whether their behaviours and subsequent practices are influenced by their developmental levels.
3. To determine whether gender differences affect sexual practices.



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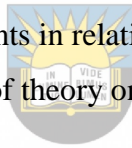
Chapter 2

Literature review

This chapter entails a literary search into the sexual knowledge and behaviour of teenagers in South Africa, the factors that affect these and the interrelationships that may exist between them.

The psychology of teens and their sexual behaviour

Adolescent development encompasses multiple areas of change in physical, cognitive, social and emotional areas and cannot be understood outside the social context in which it occurs. The persistent belief that adolescence is a time of inevitable turmoil may therefore not be true for all adolescence since numerous factors conspire to create the individual's experience. Generally speaking, though, change and development have been found to occur in certain ways and to potentially affect adolescents in relatively predictable ways allowing for the development of a (hypothetical) body of theory on adolescent development (Steinberg, 1991).



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In a review of literature on the need for developmentally appropriate HIV risk reduction interventions, Pedlow and Carey (2004) found that the needs of adolescents differ greatly from those of adults and that intervention strategies must be tailored specifically for the relevant developmental age (level) at which they are functioning. Developmental theorists such as Piaget first presented the stage theory of developmental psychology. An important contribution of this theory is the move from concrete thinking during pre-adolescence to the application of formal operations during adolescence. This cognitive development allows adolescents to think beyond the here-and-now and the capacity for abstract thinking necessary for hypothetical reasoning. This is an important developmental achievement since it has implications for future decision-making capacity that involves consideration and weighing up of potential consequences in various scenarios. Interestingly, such developmental milestones are apparently incorporated into educational systems when consideration is given to the fact that the introduction of more complex mathematical concepts such as geometry and trigonometry which are based on theorems that require abstract reasoning coincide with the onset of adolescence (Steinberg, 1991). It is believed however, that despite increasing cognitive maturity, adolescents' capacity for responsible

(adult) decision-making is reduced by their limited life experience such as experiential learning and that this often translates into an increased likelihood of teenagers to engage in high risk activities such as substance abuse, driving or engaging in unprotected sexual activity while intoxicated and so forth (Pedlow & Carey, 2004; Steinberg & Scott, 2003). This calls into question the ability of teenagers to make decisions around sexual activity, especially consistent engagement in safe sexual behaviour which includes regular testing for HIV. Furthermore, it can also be expected that on a cognitive developmental level, thought processing and decision-making within the adolescent group may vary greatly for those at the beginning of the adolescent spectrum and those at the end. These may then have implications for the intervention strategies for these groups including the ways in which HIV testing may be done on twelve year olds versus eighteen year olds.

Emotional development often involves the adolescent's ability to process the multiple changes they are experiencing. These may pertain to physical changes and sexual development which can affect self-image, cognitive maturity that brings new perspectives to light, changes in societal expectations and having to negotiate new responsibilities, moral development and the development of a value system. All of these usually also occur within a social development context where peers form the biggest part of social relationships (Van Dyk, 2008). Erikson (1963) identified the most important stage of adolescence as Identity versus Role confusion. While not exclusive to the adolescent stage, it is the one with which most adolescents are occupied with (Louw & Louw, 2007). The role of peers in the decision-making practices of teenagers can therefore not be under-estimated and this requires due consideration in the implementation of any HIV testing program as well as the likelihood that teenagers at school may choose to be tested or not may be a consequence of peer pressure rather than personal choice/preference.

Voluntary Counselling and Testing (VCT)

VCT is the voluntary procedure of going out to be tested for HIV. It involves a process of counselling before being tested (pre-test), a rapid HIV test, getting the result of the test followed by another counselling session (post-test). It has long been considered the gateway to prevention and spread of HIV and (AIDSbuzz, 2011) has been in use on a global scale for more than 20 years. Its main emphasis has been on client-seeking behaviour and it is

therefore also known as client-initiated HIV testing and counselling (WHO|HIV testing and counselling, 2011). In 2002, 474 VCT sites were listed on the Department of Health's (DOH) website and according to the most recent update (DOH, 2005), this has since expanded to close to 3000 sites (DOH, 2002; DOH, 2005). Utilisation of VCT services is initiated by the client who decides to get tested for HIV often in response to concern over exposure to HIV in one way or another. The primary focus of VCT has therefore been to get vulnerable population groups, for example, pregnant women and those in high prevalence areas, tested with the view to early diagnosis and early treatment. One of the biggest drawbacks of this approach is the stigma it carries for the person seeking this service as the implication of having done something that put them at risk for HIV. Van Dyk and Van Dyk (2003) found that stigma was associated with testing regardless of the outcome. That means that simply by going for VCT people perceived themselves at risk of stigmatisation. In their study into attitudes toward VCT it was found that slightly more than half the number of participants (50.5%) did not want to know their HIV status (Van Dyk & Van Dyk, 2003). Confidentiality or the apparent lack thereof by healthcare workers was another major barrier to testing in South Africa and was also found as a reason for low VCT uptake in other African countries such as Kenya (Van Dyk & Van Dyk, 2003). The study found that another barrier to VCT was disclosure of an HIV positive status to significant others (especially sex partners). The study found fear of rejection and loss including loss of status, food, shelter, security, neglect, disowning by families, violence, marriage break-ups as real consequences often experienced by women following disclosure of their HIV status to sex partners. A similar picture is presented by Hutchinson and Maxhlalela (2006) in a study on the utilisation of VCT services in the rural Eastern Cape. While VCT will most likely remain an important entry point for reducing HIV spread and the rate of new infections, its impact has not been significant enough and a more aggressive strategy may be called for.

HIV Counselling and Testing (HCT)

In 2007, the World Health Organisation reported that surveys in sub-Saharan Africa showed a very low response to VCT services mainly due to stigma attached to testing, but also to a continued belief in even high HIV prevalent areas that they were not at risk (Guidance on provider-initiated HIV testing and counselling in health facilities, 2007). Provider initiated HIV counselling was identified as an important entry point to 'normalising' HIV testing by

presenting it alongside other health-seeking behaviour. This means that patients may be offered HIV counselling and testing as part of their routine medical care, along with blood pressure checks, cholesterol testing and body-mass index monitoring (SANAC, 2010). The main rationale is to try to reduce the stigma attached to HIV testing by having it offered by health practitioners as part of a routine (but voluntary) health service. It also seeks to reach as many people as possible in an attempt to prevent the spread of HIV and reduce the rate of new HIV infections. This is based on the assumption that if people know their HIV status, they would change their behaviour accordingly by taking steps to remain HIV negative or get the necessary treatment (ARV's) to support a healthy immune system (The right to know: new approaches to HIV testing and counselling, 2003).

With the launch of government's HCT campaign in 2010, the focus has therefore shifted to include as many South Africans in the campaign as possible as part of routine health-seeking behaviour. The HCT campaign is set to test around 15 million South Africans by June 2011 by adopting a more positive approach to HIV testing. Rather than targeting those who think they may have been exposed to HIV (e.g. through unsafe sex) as VCT does, the intended broader audience of HCT does not include only those who think they may be infected but also those generally engaged in staying healthy. A new message that we are all vulnerable is embodied in the campaign's theme: "I am responsible, we are responsible, and South Africa is taking responsibility" (SANAC, 2010). Currently, seven million South Africans have been tested through the campaign (BuaNews, 2011).

HIV risk behaviour of adolescents

Early sexual debut

South African youth between the ages of 15 and 24 years are regarded as one of the highest risk groups, contributing to 15% of all global HIV infections (Makiwane & Mokomane, 2010). Of the estimated 5 million South Africans living with HIV, at least 10% are reported to be from this group (Harrison, Cleland, Gouws & Frohlich, 2005; Zuma, Mzolo & Makonko, 2011). Most of the studies reviewed define early sexual debut as first sexual activity before the age of 15 years and identify this as one of the variables associated with high risk sexual behaviour that has implications for future HIV risk (Harrison et al, 2005;

Makiwane & Mokomane, 2010; Zuma et al, 2011). One study placed this risk indicator even lower at 14 years and below (Pettifor, et al 2005). Most studies report a relationship between early sexual debut and condom use. In most cases it was found that those who report early coital debut often did not use a condom at their first sexual encounter, and either did not use a condom with their most recent sexual partner or used condoms inconsistently. Other studies suggest an association between early sexual debut and multiple lifetime sexual partners (Sneed, 2009; Abel & Blignaut, 2011).

Condom use

Condom use is considered "... the most effective protection against HIV and other sexually transmitted infections ..." (Hendricksen, Pettifor, Lee, Coates & Rees, 2007, p. 1241). The study highlights the facts that not only are condoms free of charge and widely available in South Africa, but that most South African youth indicate that they could easily gain access to condoms if they needed to. Abels and Blignaut (2011) point out that in Africa where heterosexual sex is the most common mode of transmission of HIV, condom non-use is the main contributor to new HIV infections. However, Pettifor et al (2005) argue that although research suggests an increase in condom use by South Africans, this obscures the fact that condom use on the whole remains inconsistent and that consistent condom use is more pertinent to HIV prevention.

While HIV testing and knowing one's status is believed to influence condom use positively, counselling and testing services have generally been under-utilised resulting in a large portion of the population not knowing their HIV status (Hutchinson & Mahlalela, 2006; Kalichman & Simbayi, 2003; (Pettifor et al, 2005; Van Dyk & Van Dyk, 2003). Non-condom use or inconsistent condom use may therefore have devastating effects on the spread of HIV in the country.

Conclusion

Despite efforts around the world to curb the spread of HIV, this disease remains a challenge to many societies. South Africa's youth in particular bear a large portion of this burden, a troubling fact given that the teenagers are regarded as the next generation. Continued research in this regard has provided valuable insights which have allowed the South African

government to adapt its strategies accordingly, but seemingly more research support is required.

At the brink of this up-scaled initiative against HIV/AIDS and in the midst of uncertainty on how best to minimise the psychological impacts of HIV testing on South African teenagers, this study hopes to shed some light on the perceptions of those who will be directly affected as a potential baseline for future similar endeavours.

Theoretical framework

The Health Belief Model (HBM) is one of the oldest psychological models used to try to explain and predict health behaviours (Mullen, Hersey & Iverson, 1987). Since its inception in the 1950's in response to failed tuberculosis program in the United States, it has been adapted to many other health behaviours including sexual behaviours particular to HIV/AIDS. Its main focus is on individuals' attitudes and beliefs and it is based on the premise that individuals will take up particular health behaviours under the following conditions:



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- A belief that a negative health consequence can be avoided
- An expectation that a recommended action will bring about the avoidance of such a consequence
- A belief that such a recommended action can be successfully negotiated

The theory comprises four constructs of perceived threats and benefits which together constitute a person's readiness to act. These include perceived susceptibility, perceived severity, perceived benefits and perceived barriers. Its application in HIV/AIDS has been wide including VCT studies. However, due to critique in its applicability to health behaviours such as smoking and over-eating (that is, that people still engage in risky behaviours despite the proposed perceived risks and benefits), further constructs have been added to the model including cues to action and self-efficacy (Mullen, Hersey & Iverson, 1987).

Conceptual Model

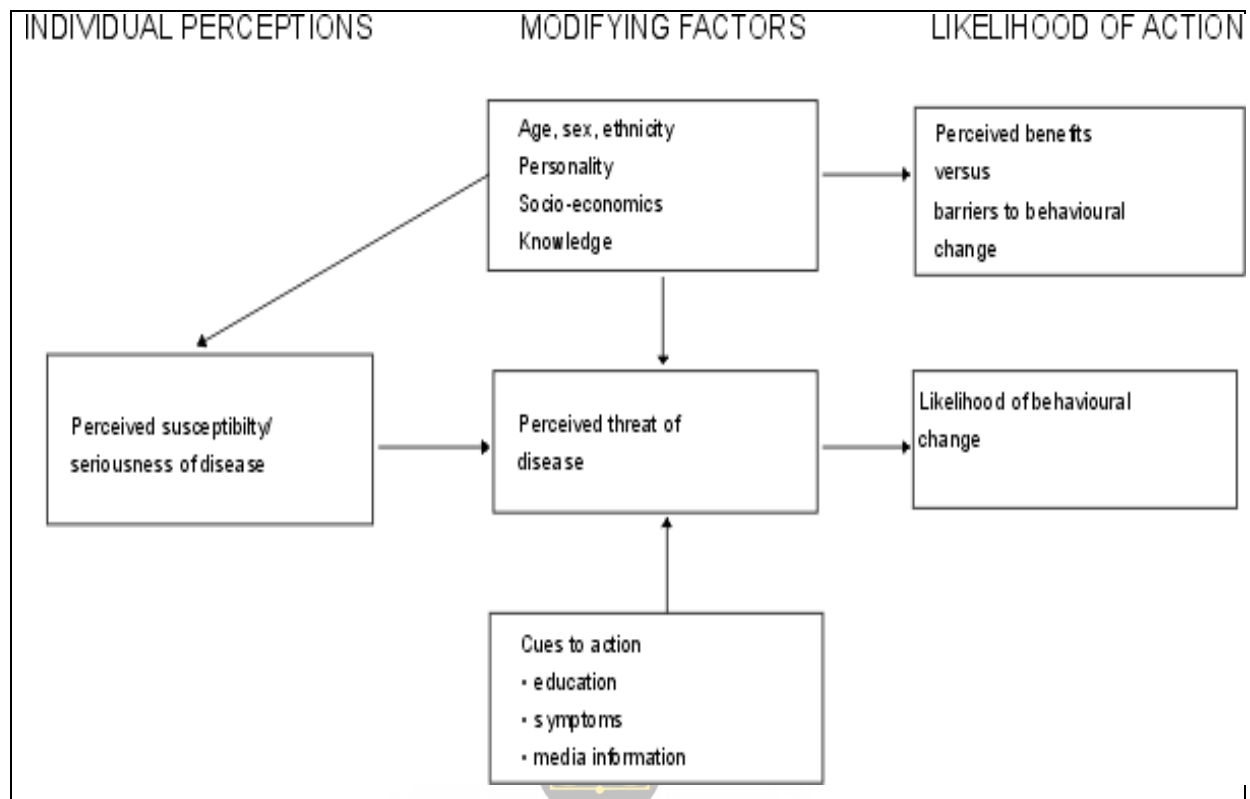


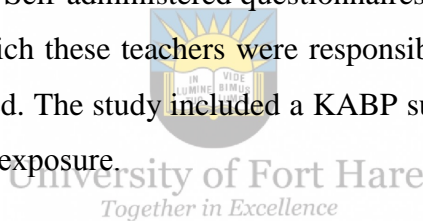
Table i: Health Belief Model: Source: Glanz et al, 2002, p. 52

Chapter 3

This chapter details the ways in which the study was conducted and how the data was dealt with. Ethical considerations specific to the study are also outlined.

Methodology

According to Babbie and Mouton (2006, p. 232), survey research is best suited to investigate “... attitudes and orientations in a large population”. In this study a cross-sectional survey was carried out at an Eastern Cape high school. Approximately three hundred participants were randomly selected to complete self-administered questionnaires. Three classes from each of the following grades were selected at the school: Grade 8, 10 & 12, in order give a broad range of perspectives at potentially varying levels of development for comparison. The assistance of guidance counsellors or teachers was solicited where possible, to aid in the co-ordination of the study. Self-administered questionnaires were distributed during the Life orientation periods for which these teachers were responsible. With their help the learners’ co-operation was negotiated. The study included a KABP survey as a means to establish the learners’ risk to HIV/Aids exposure.



Participants and sample

The sampling frame for this study was the learners at a high school in the Eastern Cape, ranging between 14 and 18 years. It was hoped that the sample would consist of relatively equal numbers of males and females but this could not be predicted as it was dependent on the gender composition of each class. On average, a 1:50 teacher-pupil ratio disadvantaged South African schools from where the sample was selected. Within these three classes from each of the three grades were randomly selected from the school from the Grades 8 & 10 class lists which were solicited from the school principal. Since the grade 12's only had 114 learners the whole grade was included in the study. Due to the sensitive nature of the study it was decided to use group sampling strategies to control any potential psychosocial barriers such as stigmatisation or isolation which may result from individual probability sampling strategies.

Procedure

Data collection was done during school hours over one week, through prior arrangement with relevant teachers, principals and governing bodies. Informed consent from the respondents on the day of data collection was established. Consent was obtained from the school principal prior to data collection, following an introduction of the research topic. No biographical data was obtained linking respondents to questionnaires and participants were informed that individual feedback would be impossible. Participants were also informed that participation was voluntary. The data collection was conducted during Life Orientation (L.O.) classes according to the school timetable with prior arrangement with the respective teachers since most HIV education and discussion occurs during this time. Respondents were asked to complete a semi-structured, self-administered questionnaire consisting of closed-ended questions. The help of two researcher-assistants was enlisted for the distribution and balloted collection of completed questionnaires. The questionnaire included a KABP survey as well as questions probing potential psychosocial barriers to getting tested, but participants were reassured that it was not a test based on right or wrong answers.



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Data-collection instrument

A structured questionnaire consisting of 52 items was administered to the respondents for self-reporting/completion. Demographic and some socio-economic questions were included to establish the characteristics of the sample. Questions relating to knowledge of HIV, knowledge of HIV transmission, attitudes, beliefs and practices around HIV were adapted from the global WHO-adopted KABP instrument. Other questions relating to sexual debut and HIV testing were included. Possible barriers to testing and conditions under which testing may be found favourable were also included. Closed questions were used with as many options as possible to facilitate statistical analysis which was done by an independent statistician. 4-Point Likert questions were also included. Questionnaires were made available in English after confirming with the school liaison that this medium was acceptable to all the participants (refer to the appendix).

Data Analysis

The quantitative data that was generated by this study was analysed using the Statistical Package for Social Sciences (SPSS). All raw numerical and non-numerical data (nominal, ordinal and ratio) were coded, entered into SPSS and cleaned (Babbie & Mouton, 2006). Descriptive data analysis was done to determine the frequency distributions, means and standard deviations of the variables. Nominal, ordinal and ratio measures were used for categorical variables (exhaustive and mutually exclusive, e.g. gender), rank-order variables using Likert scales and continuous variables such as age respectively (Babbie & Mouton, 2006). Inferential statistics such as chi squares were used to compare the teenagers perceptions of testing in terms of their knowledge, attitudes, beliefs and practices between the three groups, between males and females, etc. (Babbie & Mouton, 2006; Nunez, 2002). T-test statistics were used to test the hypotheses that the groups would differ in terms of their sexual activity and subsequent need for testing, that the groups would differ in terms of their knowledge, attitudes, beliefs and practices.



Ethical considerations

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Permission for the study was obtained from the Ethics committee at the University of Fort Hare Psychology Department. According to current South African law children from age 12 may consent to HIV testing and for this reason parental consent for the study was not required. However, informed consent was negotiated with the participants in study following a detailed explanation of the purpose of the study. Participants were informed that the information gathered would be for research purposes only and that confidentiality would be maintained throughout the research process. They were requested not to provide any identifying data on the questionnaires to ensure anonymity but that this would also impede individual feedback. The participants were also informed that participation was voluntary and that they were free to stop at any point when they no longer felt comfortable answering any of the questions. Permission was also obtained from the school principal and co-operation negotiated with the relevant participating teachers.

A response rate of 67% was initially recorded but this was later adjusted to 56% when incomplete questionnaires, which could not be statistically analysed, were eliminated.

Chapter 4

This chapter provides a detailed description of the results of the study.

The questionnaires were divided into the relevant grade categories and raw data was cleaned, coded and entered into SPSS version 18.0 with the assistance of a statistician. Tables are provided for illustration.

Results

In total 201 of 300 questionnaires were collected. Of these 32 were incomplete and were omitted as they could not be statistically analysed. The final sample size was therefore 169 as set out in the table below.

| Demographics | Grade 8(n=50) | Grade 10(n=50) | *Grade 12(n=68) |
|-----------------|------------------|------------------|------------------|
| (*Missing) | n(Valid) n(%) | n(Valid) n(%) | n(Valid) n(%) |
| Age group | | | |
| 13-14 | 36(72%) | | |
| 15-16 | 12(24%) | 11(22%) | 2(2.9%) |
| 17-18 | 2(4%) | 34(68%) | 43(63.2%) |
| >18 | | 5(10%) | 23(33.8%) |
| Gender | | | |
| Male (n=50) | 23(46%) | 16(32%) | 11(16%) |
| Female (n=119) | 27(54%) | 34(68%) | 57(83%) |
| First language | | | |
| English(n=31) | 11 | 4 | 16 |
| Afrikaans(n=80) | 17 | 30 | 33 |
| Xhosa(n=57) | 22 | 15 | 19 |
| Zulu(n=1) | | 1 | |

Table ii: Demographic characteristics per grade

Most of the students in the sample (79) fell into the 17-18 years age group and more grade 12's (68) participated in the study. One person did not indicate their grade. The sample also

consisted of more females (119) than males (50), most of who were in grade 12 (57). The majority of the students were Afrikaans-speaking (80), followed by Xhosa-speaking (57), English (31) and Zulu-speaking (1).

Current relationship status

The majority of the learners indicated that they were currently single (60.9%). 39 students indicated that they were in a serious relationship and 19 said they were in a serious, non-sexual relationship. One learner was living with a partner and 6 indicated a relationship status other than those provided. Of these one indicated that they had 3 partners, two indicated that their relationships were non-serious and non-sexual, one response was that it was 'complicated' and one did not provide a reason.

| | Single | In a serious relationship | Serious non-sexual relationship | Living with a partner | Other |
|-------------|------------|---------------------------|---------------------------------|-----------------------|----------|
| N Valid | 103(60.9%) | 39(23.1%) | 19(11.2%) | 1(0.55%) | 6(3.55%) |
| (*Missing) | | | | | |
| (*1/ 0.55%) | | | | | |

Table iii: Current relationship status

Students' knowledge of HIV were tested (answer format: true/false) as per table iv

| Statements | Grade 8 | Grade 10 | Grade 12 |
|---|--------------|--------------|----------------|
| | True / False | True / False | True/ False |
| | N (%) | N (%) | N (%) |
| HIV and AIDS is the same thing | 7 / 43 | 10 / 40 | 4 / 64 |
| p<0.05 X ² =5.397 | (14%)(86%) | (20%)(80%) | (5.1%)(94.9%) |
| I can see who is HIV positive or negative just by looking at them | 5 / 45 | 6 / 44 | 3 / 65 |
| | (10%) (90%) | (12%) (80%) | (4.4%) (95.6%) |

*When you are HIV positive you can re-infect yourself by having sex with another HIV positive person without a condom

| | | | |
|---|------------|------------|----------------|
| | 22 / 27 | 20 /30 | 23 /44 |
| | (44%)(54%) | (40%)(60%) | (33.8%)(64.7%) |
| *HIV can be cured | 19 /31 | 4 /46 | 4 /62 |
| p<0.05 X ² =24.897 | (38%)(62%) | (8%)(92%) | (5.9%)(91.2%) |
| *HIV can be treated | 43 / 7 | 49 / 1 | 61 /5 |
| p<0.05 X ² =4.997 | (86%)(14%) | (91%)(2%) | (89.7%)(7.4%) |
| *HIV can be prevented | 36 /13 | 48 /2 | 65 /1 |
| p<0.05 X ² =22.755 | (72%)(26%) | (96%)(49%) | (95.6%)(1.5%) |
| Using condoms can protect me from HIV | 42 /8 | 42 /8 | 57 /11 |
| | (84%)(16%) | (84%)(16%) | (83.8%)(16.2%) |
| *Using the pill can protect me from HIV | 12 /36 | 8 /41 | 5 /62 |
| p<0.05 X ² =6.720 | (24%)(72%) | (16%)(82%) | (7.4%)(91.2%) |

Table iv : Students' knowledge of HIV

On the whole the participants demonstrated a good knowledge base of HIV throughout the grades with the exception of the question regarding re-infection (“When you are HIV positive you can re-infect yourself by having sex with another HIV positive person without a condom”). All the grades showed a lack of knowledge in this regard. Some differences were found between the three grades with the higher grades (10 & 12) showing more knowledge than the lower grades (8) (HIV and AIDS is the same thing p<0.05 X²=5.397; HIV can be cured p<0.05 X²=24.897 /treated p<0.05 X²=4.997 /prevented p<0.05 X²=22.755; Using the pill can protect me from HIV p<0.05 X²=6.720).

Knowing someone with HIV

I know someone who is HIV positive.

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|--------|-----------|---------|---------------|--------------------|
| Valid | True | 120 | 71.0 | 71.4 | 71.4 |
| | False | 48 | 28.4 | 28.6 | 100.0 |
| | Total | 168 | 99.4 | 100.0 | |
| Missing | System | 1 | .6 | | |
| Total | | 169 | 100.0 | | |

Table v: Knowing someone who is HIV positive

An overwhelming proportion of the participants (71%) indicated that they knew some who was HIV positive.



Knowledge of HIV transmission

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| Statement (Someone who has HIV can infect me if I): (*Missing) | Agree N (%) | Disagree N (%) |
|---|----------------|-------------------|
| Hug them | 8(4.7%) | 161(95.3%) |
| Hold their hand | 8(4.7%) | 161(95.3%) |
| *Kiss them | 28(16.6%) | 140(82.8%) |
| *Use their spoon/glass/cup | 26(15.4%) | 142(84%) |
| Have sex with them without a condom | 158(93.5%) | 11(6.5%) |
| Come into contact with their blood | 157(92.9%) | 12(7.1%) |

Table vi: Knowledge of HIV transmission

The participants demonstrated sound knowledge of HIV transmission.

Stigma toward someone with HIV

Stigma toward someone with HIV was measured on a 4-point Likert scale (4=Strongly agree and 1=Strongly disagree). The girls in this study showed less stigma toward someone with

HIV/AIDS than the male group. Pearson's correlation showed weak relationships between knowing someone who is HIV positive and stigma attitudes (I don't mind being friends with someone who has HIV=0.243; I don't mind sitting next to someone who is HIV positive= -0.120; I would visit someone who is HIV positive at home= -0.89; I would invite someone who has AIDS/is HIV positive to my house= -0.176).

| Statements | Males M (SD) | Female M (SD) | Statistics for Group Comparison |
|---|-----------------|------------------|--|
| I don't mind being friends with someone who has HIV | 2.84 (1.017) | 3.23 (.978) | $t = -2.319, p < .05$ |
| I don't mind sitting next to someone who is HIV positive | 1.65 (.779) | 1.64 (.909) | $t = -2.529, p < .05$ $t = -2.361, p < .05$ |
| I would visit someone I know who is HIV positive at home | 2.98 (.958) | 3.33 (.749) | |
| I would invite someone who has AIDS/is HIV positive to my house | 2.86 (.948) | 3.20 (.819) | |

Table vii: Stigma toward someone with HIV

Students' beliefs about HIV

Learners were asked to indicate their responses which measured their beliefs around HIV on a 4-point Likert scale (4=Strongly agree and 1=Strongly disagree). The results indicated that the participants in this study have healthy beliefs in respect of HIV and its potential impact, suggesting potential for making healthy choices about their sexual health.

| Statement N=169 (*Missing) | Strongly agree | Agree | Dis-agree | Strongly disagree |
|---|----------------|-------|-----------|-------------------|
| *Condoms kill the mood for sex | 11.2% | 14.2% | 26% | 44.4% |
| *Condoms won't protect me from HIV | 14.8% | 19.5% | 23.7% | 41.4% |
| *If you get HIV your life is over | 6.5% | 6.5% | 33.1% | 52.7% |
| *If you have HIV you won't have any friends | 5.9% | 8.9% | 40.2% | 44.4% |
| If you have HIV you can't ever have sex again | 4.7% | 11.2% | 47.3% | 36.7% |
| *If you have HIV you can't ever have sex again without a condom | 43.2% | 35.5% | 11.2% | 9.5% |
| If I tested negative for HIV it means I can't get infected | 3% | 11.2% | 32.5% | 53.3% |
| Using condoms when you are HIV positive is pointless | 3.6% | 9.5% | 28.4% | 58.6% |

Table viii: Student beliefs around HIV

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I would get tested for HIV:

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------------------------------|-----------|---------|---------------|--------------------|
| Valid At my school | 14 | 8.3 | 8.3 | 8.3 |
| My nearest clinic | 52 | 30.8 | 31.0 | 39.3 |
| My doctor | 84 | 49.7 | 50.0 | 89.3 |
| A clinic outside my community | 6 | 3.6 | 3.6 | 92.9 |
| A doctor whom I have never seen | 7 | 4.1 | 4.2 | 97.0 |
| Under no circumstances | 5 | 3.0 | 3.0 | 100.0 |
| Total | 168 | 99.4 | 100.0 | |
| Missing System | 1 | .6 | | |
| Total | 169 | 100.0 | | |

Table ix: Place of testing

The majority of the participants indicated that they would get tested for HIV by their doctor (49.7%) or at their nearest clinic (30.8%) suggesting a relatively high degree of trust in healthcare professionals with respect to confidentiality.

HIV testing companion

I would go for an HIV test:

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-----------------------|-----------|---------|---------------|--------------------|
| Valid Alone | 58 | 34.3 | 34.3 | 34.3 |
| With a friend | 6 | 3.6 | 3.6 | 37.9 |
| With my partner | 44 | 26.0 | 26.0 | 63.9 |
| With my mother/father | 50 | 29.6 | 29.6 | 93.5 |
| With a close relative | 9 | 5.3 | 5.3 | 98.8 |
| Other | 2 | 1.2 | 1.2 | 100.0 |
| Total | 169 | 100.0 | 100.0 | |

Table x: Companion to get tested for HIV

The majority of learners indicated a preference for companionship by someone close if they went for HIV testing (partner 26% and a parent 29.6%) suggesting the need for emotional support in this regard.

I would get my HIV result

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-----------------------|-----------|---------|---------------|--------------------|
| Valid Alone | 73 | 43.2 | 43.2 | 43.2 |
| With a friend | 4 | 2.4 | 2.4 | 45.6 |
| With my partner | 37 | 21.9 | 21.9 | 67.5 |
| With my mother/father | 45 | 26.6 | 26.6 | 94.1 |
| With a close relative | 9 | 5.3 | 5.3 | 99.4 |
| Other | 1 | .6 | .6 | 100.0 |
| Total | 169 | 100.0 | 100.0 | |

Table xi: Companion to get HIV result

While most learners would prefer to have someone close to them when they receive their HIV results (partner 21.9% and a parent 26.6%), a greater proportion would prefer to get their result alone (43.2%) than be tested alone (34.3%).

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Disclosure of an HIV result

In terms of disclosure of an HIV result, most participants would choose to tell a parent of either a negative (39.1%) or a positive (55.6%) HIV results, suggesting that most still regard their parents as their main emotional resource. Only 14.4% have indicated that they would tell their partner of a positive result.

First sexual encounter

| | Males(N=50) | Females(N=119) |
|---------------|-------------|----------------|
| | N (%) | N (%) |
| Age group | | |
| 9-11 | 9(18%) | |
| 12-14 | 15(30%) | 7(5.9%) |
| 15-17 | 10(20%) | 28(23.5%) |
| >17 | 2(4%) | 25(21%) |
| Never had sex | 14(28%) | 59(49.6%) |

Table xii: First sexual encounter by gender

Table xii indicates that the boys in this study are sexual active earlier than their female counterparts and that the most of the girls became sexually active from the age of 15 years and older.



Condom use

Two questions were asked relating to the practice of safe sex as demonstrated by condom use at first sex and consistent use of condoms. The questions were answered by all participants except one who did not indicate condom use consistency. 75 participants (44.4%) in both cases indicated that they had never had sex which closely relates to those who indicated that they had never had sex on the age at sexual debut question above. Of those who did indicate they were sexually active 48 (28.4% of total sample and 51.1% of the sexually active group) indicated that they used a condom the first time they had sex and 46 did not. Of this group only 38 (40.9%) used condoms every time they had sex while 55 (59.1%) did not.

Of the 50 boys and 119 girls in the study, 28% and 61% respectively indicated that they had never had sex. Of the 36 sexually active males, only 12 indicated that they used a condom at first sex, while twice as many (24) indicated that they did not. This is in contrast to the 58 sexually active girls of whom almost two thirds (36) used a condom at first sex, and 22 did not. A different picture is found on the condom consistency variable. While the boys were relatively evenly split between using and not using condoms consistently (17:19 of 36), more girls indicated that they did not use condoms consistently (63.2%) versus those who

say they do (36.8%).

Knowing your HIV status

All the participants in the sample responded to the question “I know what my HIV status is” (n=169). 63 replied “Yes” to the question and 44 answered “No”. The remainder of the participants (62) indicated that they had “Never had sex”. More girls (65.7%) than boys (45.9%) indicated that they knew what their HIV status was although this was not necessarily an indication of whether or not they had been tested for HIV. This is also confirmed by Pearson Chi-square=7.734, $p<0.05$.

Have been tested for HIV

I have had myself tested for HIV.

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-----------|-----------|---------|---------------|--------------------|
| Valid Yes | 57 | 33.7 | 33.7 | 33.7 |
| No | 112 | 66.3 | 66.3 | 100.0 |
| Total | 169 | 100.0 | 100.0 | |

Table xiii: Tested for HIV

As indicated in table xiii a large portion of the sample have not been tested for HIV, however, no distinction is made between the sexually active group and those who had previously indicated that they have never had sex.

Would like to be tested for HIV

122 (72.2%) participants indicated that they would like to have themselves tested for HIV. 13 (7.7%) did not wish to be tested (answered “No” to “I would like to have myself tested for HIV”) and 32 (18.9%) indicated that they were not interested. 2 (1.2%) participants did not answer this question. An association between knowing someone who is HIV positive and wanting to be tested was found using Pearson’s Chi-square (6.012, $p<0.05$).

Conditions for testing

The following set of questions probed possible conditions under which learners might agree to being tested. Responses were presented on a 4-point Likert scale as indicated by table xiv below

| Statement N=169 (*Missing) | Strongly agree | Agree | Dis- agree | Strongly disagree |
|--|-------------------|---------------|---------------|----------------------|
| No one knows that I went for a test | 29 (17.2%) | 42 (24.9%) | 57 (30.7%) | 41 (24.3%) |
| *No one would find out my result | 26 (15.4%) | 30 (17.8%) | 69 (40.8%) | 43 (25.4%) |
| *I know that I would test negative | 62 (36.7%) | 54 (32%) | 32 (18.9%) | 20 (11.8%) |
| I would not get tested for HIV under any conditions | 15 (8.9%) | 27 (16%) | 62 (36.7%) | 65 38.5(%) |

Table xiv: Conditions for testing

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Most participants did not seem to consider confidentiality a necessary condition for testing and either disagreed or strongly disagreed with the statements “No one knows that I went for a test” and “No one would find out my result”.

Number of sexual partners in the past 12 months

How many sexual partners have you had in the past 12 months?

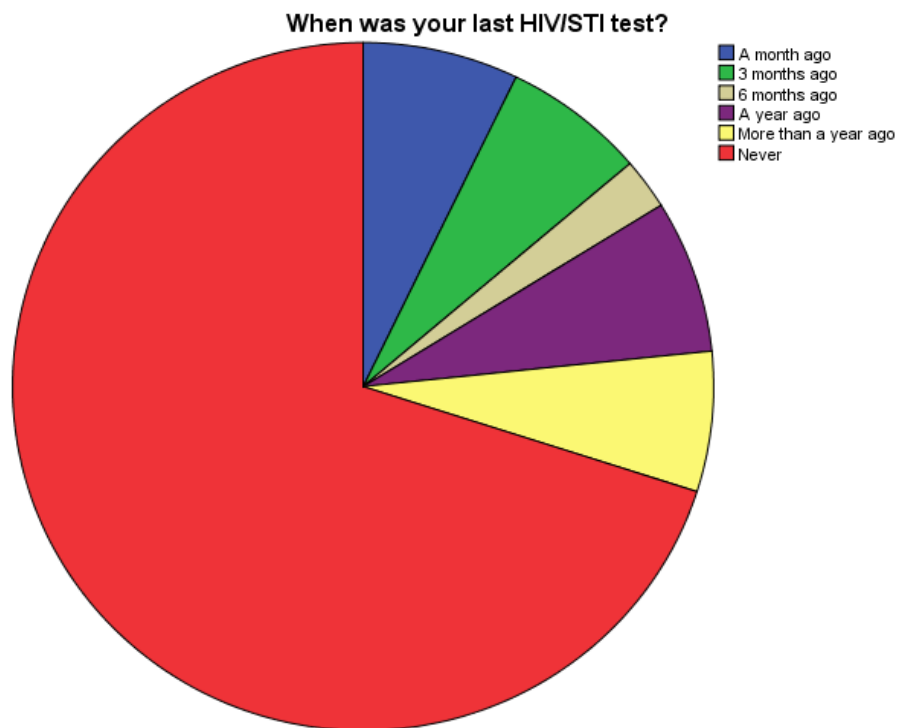
| | Frequency | Percent | Valid Percent | Cumulative Percent |
|------------|-----------|---------|------------------|-----------------------|
| Valid 0 | 83 | 49.1 | 49.1 | 49.1 |
| 1-3 | 62 | 36.7 | 36.7 | 85.8 |
| 4-6 | 7 | 4.1 | 4.1 | 89.9 |
| 7-9 | 5 | 3.0 | 3.0 | 92.9 |
| 10 or more | 12 | 7.1 | 7.1 | 100.0 |
| Total | 169 | 100.0 | 100.0 | |

Table xv: Number of sexual partners in the past 12 months

Most participants (49.1%) indicated that they had not been sexually active during the last year. 62 (36.7%) had between 1 and 3 sexual partners, 4.1% between 4 and 6 partners and

3% between 7 and 9 partners. 12 (7.1%) indicated that they had had sex with 10 or more partners in the last 12 months. Pearson's correlation shows a moderate negative relationship between age at first sexual encounter and the number of partners in the past 12 months (-0.654).

Last HIV/STI test



Graph 1

The majority of the participants in the study (117/69.2%) indicated that they have never been tested for any sexually transmitted diseases including HIV.

Chapter 5

This chapter is a discussion on the findings of the study as they relate to the hypotheses and previous literature. The conclusions and recommendations of the researcher are also tabled and the limitations of the study are highlighted.

Discussion

The findings in this study support the hypothesis that adolescents at different developmental levels differ in their perceptions on HIV/AIDS, suggesting different needs at the respective developmental levels as proposed by Pedlow and Carey (2004). In particular, the older students demonstrated more knowledge of HIV/AIDS than their younger counterparts, possibly as a consequence of a longer and more sustained exposure to HIV/AIDS school programs.

In this study a large proportion of the learners indicated that they knew someone who was HIV positive. Analysis of the relationship between knowing someone with HIV and stigma attitudes toward people with HIV were similar to previous research with those knowing someone with HIV having less stigma and girls showing less stigma than boys, possibly due to their caring role in society as suggested by Hutchinson and Mahlalela (2006).

Another relationship found in past research (Hutchinson and Mahlalela, 2006; Kalichman & Simbayi, 2003) as well as in this study is that knowing someone with HIV is associated with an increased willingness to be tested for HIV .

Confidentiality was also identified as an important barrier to testing in past research (Hutchinson & Mahlalela, 2006; Van Dyk & Van Dyk, 2003). It was found that people did not trust healthcare professionals to maintain confidentiality and that many therefore preferred to be tested at a place where they were not noted. These studies however were conducted in rural areas and may therefore not be reflective of a general consensus among urban respondents. This study did not support these findings as many learners seemed happy to be tested by their own doctor or at a clinic in their community (Table ix). However, very few showed confidence in being tested at school, suggesting that confidentiality may be an issue to the learners in this environment.

A probe into possible conditions under which the learners may get tested revealed that most would get tested if they knew that they would test negative. This idea may have influenced the number of learners who indicated a willingness to test for HIV among those who had indicated that they had never had sex.

Most of the learners in this study indicated the need for a companion when going for an HIV test. However, peer influence did not prove to be a strong indicator in this study as expected by literature into HCT at schools (Ndebele, 2011). A large number of the participants apparently preferred to be accompanied for an HIV test by someone close to them such as a parent or a partner, rather than a friend (Table x).

While most learners also indicated a preference for having someone with them when they received their results (either negative or positive), more participants were more willing to get their results alone than be tested alone. Although almost half of the participants in the study said that they had never had sex, the proportion of those who indicated that they would want to get their results alone may suggest some uncertainty of their HIV. Since the majority of the students demonstrated a sound knowledge of HIV/AIDS (Tables iv and vi) this may indicate some reluctance in disclosing actual sexual activity.

Most of the participants in this study indicated that they would disclose either a negative or positive HIV result to a parent. This may suggest that these adolescents view their parents as their primary source of emotional support and expect that they would not be rejected by them on the basis of their HIV status. Only 14.4% indicated that they would tell a partner of a positive result. Literature shows a much higher disclosure rate to partners than found in the study (Hutchinson & Mahlalela, 2006; Van Dyk & Van Dyk, 2003), but with so many participants indicating that they are not sexually active it may be possible that many simply do not expect a positive result and therefore did not consider the hypothetical situation seriously.

Age at sexual debut is generally regarded as an indicator for HIV risk as this marks one's vulnerability to exposure to HIV and other STI's (Makiwane & Mokomane, 2010; Zuma et al, 2011). Males in this study became sexually active earlier than their female counterparts (table xii). Similar results were found by Zuma et al (2011) although females still had higher prevalence rates despite becoming sexually active later than males due to a complex interplay of sexual behaviour such as sex with older males, low bargaining power where condom use is concerned, etc.

Approximately 60% of the learners indicated that they were sexually active. Of this group at least half said they used condoms at their sexual debut while half did not. Even fewer indicated consistent condom use. This finding is similar to that of Pettifor et al (2005) who highlighted that although condom use had increased, their study showed that youth did not use condoms consistently. More girls than boys indicated inconsistent condom use, suggesting once again a power imbalance when it comes to negotiating condom use.

Only a small portion of the learners in this study (33.7%) have been tested for HIV. This means that despite twice that many indicating that they were sexually active, at least half of them did not know their HIV status.

A large percentage (72.2%) indicated however that they would like to be tested for HIV. Previous research has linked wanting to be tested to knowing someone with HIV (Hutchinson & Mahlalela, 2006; Van Dyk & Van Dyk, 2003). In this study an association between these two variables were also found.

Another high risk HIV-behaviour identified by research is the number of sexual partners in the past year, with more than one partner falling into the category of 'high risk' (Abels & Blignaut, 2011). While many of the participants in this study had not been sexually active in the past year, close to 51% had had multiple partners in the last 12 months, with 7.1% of these having more than 10 partners during that time. In light of the reported inconsistent condom use in this study, it can be concluded that many of these learners are vulnerable to HIV exposure.

Past research also found a relationship between early sexual debut and an increase in the number of sexual abuse. A negative moderate relationship on the Pearson's correlation coefficient also supported this finding in this study.

Conclusion

HIV counselling and testing involves much more than a simple blood test. It is in essence an assessment of sexual behaviour and as such it carries with it psychological implications.

Since adolescents, especially those at school, are still in the process of development at all levels, it stands to reason that they be given special considerations, should this leg of the campaign by government be implemented at schools.

This study found that there were differences between adolescents at different levels of development, with the older learners demonstrating more knowledge of HIV than the younger ones. Considering that many HIV programs are based on the assumption that the ability to make positive health choices begins with such knowledge, it can be concluded that younger learners may be more susceptible to the risk of HIV.

Gaps in knowledge among the learners were found to exist uniformly as many of the learners did not know that someone with HIV remains at risk for re-infection and that condom use in this regard is still important. It is likely that HIV programs are not effectively evaluated in order to identify and address such concerns.

Stigma attitudes found among learners in this study suggest that despite knowledge of HIV transmission, attitudes toward HIV positive people remain negative. This may suggest that HIV stigma is a more complex concept than simply understanding that one cannot get HIV by hugging someone, etc. It may involve judgement of the sexual choices and behaviours of that person, which then serves as a barrier to others testing, who then do not wish to be perceived in a similar way. As with other studies, knowing someone with HIV seems to both reduce HIV stigma attitudes and increase the willingness to test for HIV. Introducing learners to healthy HIV positive people as part of their school programs may be useful in this respect.

While many of the learners in this study were knowledgeable of HIV, this did not seem to translate into healthy sexual practices as hypothesised. Inconsistent condom use and multiple sexual partners were two important HIV risk behaviours identified among the participants in this study. The health belief model suggests that people would take the appropriate health behaviours following an assessment of risks and benefits, as well as an evaluation of their ability to successfully engage in such behaviour. Thus it can be concluded that, from this framework, the learners in this study may be lacking either in their ability to assess risks and benefits or in their ability to be successful in performing chosen health behaviour. It is

possible that cognitive maturity may be another barrier to accurately assessing HIV/sexual risk in adolescents as suggested by past research. Other factors that may need to be considered are parental involvement and attitudes of educators in fostering open communication that could bridge the gap of adolescent immaturity.

Emotional support with regards to HIV testing was identified as an important ameliorating factor in this study. In particular, many of the learners still seemed to identify their parents as their main emotional resource. This suggests that it may be useful for schools to try to co-opt parents into HIV education as a means of continuity and to strengthen the perception of the learners of their families as support systems.

Many of the learners in this study also identified their parents as the ones they would disclose an HIV result to (either negative or positive), with only a small percentage indication that they would inform their partner of a positive HIV result. While this could have devastating effects given the risk profile of these participants, it could also be an opportunity to extend parental involvement as the primary emotional resource in encouraging disclosure to those parties who have a right to know.



While many learners in the study did not know their HIV status, the majority indicated that they wanted to know their HIV status. However, most of them indicated a preference for testing at their healthcare facilities rather than at schools. This may indicate a lack of trust in the maintenance of confidentiality which could pose a problem to the implementation of HCT at schools.

Recommendations

Following the findings of this study the following recommendations are proposed for HIV testing at schools:

Learners have different developmental needs. As such, those in the lower grades may be less astute in dealing with the psychological implications of HIV testing. It is therefore recommended that learners in these junior grades (8 and 9) have counselling and testing that is tailored specifically to their emotional and cognitive developmental levels.

The effectiveness of HIV/AIDS programs in schools should be evaluated on a more regular basis through annual KAP surveys so that gaps can be identified timeously and corrective measures instituted.

HIV/AIDS programs should be extended to include parents as they still seem to have an important role to play in the learners' emotional support. Enhancing their ability to provide this support can only strengthen this resource.

Fear of being stigmatised and a lack of trust in the maintenance of confidentiality in respect of HIV testing at schools may serve as barriers to testing. Such testing cannot precede the implementation of a general health clinic which encourages general health behaviours as those proposed by government and SANAC at other health services. It is therefore recommended that schools receive support in this respect, in initiating such services first, rather than just instituting HCT which may leave learners feeling exposed.

Limitations of the study

This study was carried out at one school in a poverty-stricken area in the Eastern Cape and findings cannot be generalised to the broader population.

A pilot study was not conducted to test the questionnaire which may have been useful in highlighting problem areas and reduced the number of incomplete questionnaires that were excluded for statistical purposes.

The quantitative nature of the survey limited the responses and consequently the perceptions of the participants. Similar studies should combine quantitative data with qualitative methods.

The sensitive nature of the questions in the survey may have resulted in an under-reporting of sexual activity among the respondents.

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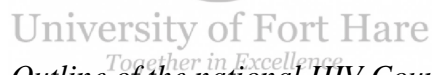
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