HIV/AIDS and Students at RAU

INTERIM REPORT

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December 2001

Executive Summary

1. This report is drawn from findings of a study on the association between awareness of HIV/AIDS and behaviour of RAU students in a social/cultural context. Students' knowledge, awareness and perceptions were determined, and their behaviour was linked to their HIV status. The study included a questionnaire survey coupled with a test for HIV status based on samples of oral fluid (saliva). Questionnaires and samples were anonymous, and provided on the basis of informed consent. The result of every HIV test was linked to the appropriate questionnaire by providing each with the same bar code. Data gathering was conducted during the week of 15-19 October 2001.

2. A full report will be produced in due course. This will cover the full spectrum of issues raised in the questionnaire, including a wide range of demographic variables, knowledge, awareness, practices, and preferences for action. However, one major finding was surprising to the researchers and potentially significant in terms of AIDS research. This interim report is a consequence of a concern to make this available for public scrutiny at the earliest opportunity.

3. Amongst the 1,217 students who participated, only 13 students tested HIV positive, resulting in an HIV prevalence rate of just 1.1%. The researchers believe that this figure approximates to the rate of HIV infection among RAU students as a whole, as the demographic composition of the sample is roughly comparable to the wider RAU full-time student population.

4. These figures are very much lower than anticipated on the basis of existing estimates of HIV prevalence among tertiary students. This is clearly 'good news' as it demonstrates that levels of HIV infection might not be as high as previously envisaged. A full explanation of this, and a convincing analysis of its implications for AIDS prevention, will require further research. However, some of our additional findings are at least suggestive.

5. The survey showed, in particular, a considerable level of HIV/AIDS awareness among RAU students. They were especially knowledgeable of ways to minimise their own risk, and there is evidence that the government's 'ABC' message to 'abstain, be faithful and condomise' had been internalised. A high proportion of the students reported that they were not yet sexually active, and there was extensive use of condoms among those who were sexually active.

6. Further, since estimates of prevalence are usually based on an extrapolation from the national model concerned with race, gender, age and province, it is possible that there is an underestimation of other variables that may be significant in determining levels of HIV infection. Specifically, since all those surveyed in this case were university students, level of education and by implication, socio-economic status, may also be key determinants of rates of HIV prevalence.

7. The findings presented here cannot be interpreted as casting doubt on the generally accepted figures for HIV prevalence for the South African population as a whole. Nor should they be interpreted by students - whether at RAU or elsewhere - as meaning risks of HIV infection are so low they can ignore the 'ABC' advice, which is aimed at behavioural risk reduction. Nor, either, should they be interpreted by the RAU Management as meaning that it need not concern itself with HIV infection among the university's students. With regard to this final point, the researchers re-iterate proposals that have been made on previous occasions, including one for the appointment of a full-time campus AIDS Co-ordinator.

8. Finally, further research is recommended, both at RAU and at other tertiary institutions. The situation on the RAU campus should be monitored by repeating the research at regular intervals. In addition, similar studies on other campuses would provide a valuable comparative dimension. Also, further investigation is required into why prevalence rates among students are probably lower than predicted.

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Acknowledgements

We wish to thank RAU University Management, particularly Prof. Aubrey Redlinghuis, and Dr. Riaan Els of the Carl and Emily Fuchs Foundation for their funding and support. Special thanks are extended to Dr. Charlotte Ingram, of HIV Management Solutions for her continued support and advice, as well as her assistance in co-ordinating the testing. We would also like to thank Dr. Liz Floyd of the Gauteng AIDS Directorate for her advice as well as Riëtte Eiselen of the Statistical Consultation Service at RAU for assistance with the statistical analysis of the data.

Introduction: Contextualising the Study

Understanding and planning for HIV/AIDS in South Africa is of increasing importance, in particular with reference to a subgroup of the South African population, its youth. This is especially significant, as this is the cohort with the fastest growing rate of HIV infection (Whiteside & Sunter 2000: 32). Moreover, the negative implications of a high death rate among this age category on social and economic progress cannot be overstated. The growing incidence of the HIV infection amongst students at tertiary institutions in South Africa is similarly highlighted as a cause for concern. A limited number of studies of HIV/AIDS have been undertaken amongst students at tertiary institutions in South Africa, but only one of these (the University of Durban-Westville study) has attempted to establish the rate of HIV infection at a tertiary institution.

Projections of infection rates for university students paint a very bleak picture. In particular, high estimates are evident in the study undertaken at the University of Durban-Westville (UDW), which, according to media reports, 'revealed infection rates of 26% in women and 12% in men aged 20 to 24' (Stremlau & Nkosi, 2001). In his report for the South African Universities Vice-Chancellors' Association (SAUVCA), Dhianaraj Chetty estimated HIV infection levels in 2000 as follows: 22% for university undergraduates, 11% for postgraduate university students and 24.5% for technikon undergraduates. SAUVCA expects these to increase to 33%, 21% and 36%, respectively, by the year 2005 (Chetty, 2000:9). These projections are based on a presentation by Anthony Kinghorn, a consultant with ABT Associates, the firm that undertook the UDW study (personal communication, Chetty, 6 December 2001). In a recent article in the *Mail & Guardian* David Macfarlane (2001:12) refers to a preliminary government study that indicates 22% of undergraduate students could be infected, rising to 33% by 2005. This study, by the Department of Health, is expected to be released in 2002.

It is difficult to comment on the reliability of these SAUVCA estimates, as we have not yet been able to obtain the presentation on which they are based. It is also not possible to evaluate the quality of the UDW research as the report has not been made available for peer review. However, we understand that the key component in estimates for HIV prevalence consists of an extrapolation from a national model. This allows for variation on the basis of race, sex, age and province, and whilst these considerations may provide an accurate prediction for South Africa as a whole, they are probably insufficient for micro or sectoral studies. Especially significant, in this case, is that the model makes no allowance for levels of education or other indicators of socio-economic status. With regard to the UDW study we understand that results were based on a sample drawn from students attending a clinic. The likelihood is that such a sample would be biased in favour of high rates of infection.

For sound policy to be developed, judgements need to be based on reliable evidence and rigorous analysis, and these should be subject to public scrutiny. We hope that

by making our findings generally available we will add to the quality of debate on reducing levels of HIV infection, especially among tertiary students.

HIV/AIDS in Tertiary Institutions: The Harsh Reality?

The majority of previous studies of HIV/AIDS at tertiary institutions focused on knowledge, awareness and practices of students. All of the studies indicated that students were generally knowledgeable about the causes and modes of transmission of HIV/AIDS. They were able to specify the activities that constitute high-risk behaviour as well as the best ways to protect themselves from HIV infection (Barnes 2000: 17; Friedland *et al* 1991: 151; Kaya & Kau 1994: 11-12; Kelly 2001: 19; Marcus 2001: 3-4; Smith *et al* 1998: 283-285). They also tended to recognise HIV/AIDS to be a problem on campus (Barnes 2000: 19; Kelly 2001: 19).

However, their awareness and knowledge of HIV/AIDS did not always correspond with their sexual behaviour. Previous studies found that a large number of students were sexually active and considered university studies to be concurrent with becoming sexually active. They showed a tendency towards indulging in casual sex without necessarily practising safe sex by using a condom. There seemed to be a generally negative attitude towards using condoms. Students also tended to be more worried about falling pregnant than becoming infected with HIV (Marcus 2001: 8-9). Alcohol use and peer pressure were two important factors impacting on the tendency towards casual sex combined with the absence of safe sex practices (Barnes 2000: 23-29; Friedland *et al* 1991: 151-152; Kaya & Kau 1994: 13; Marcus 2001: 4-10; Smith *et al* 1998: 285-288).

Studies also showed that students generally did not consider themselves to be at a serious risk of contracting HIV/AIDS. This belief is largely a result of students indulging in 'othering' the disease, that is the belief that people like drug users, male homosexuals, uneducated people, rural people, black people (in the case of whites) or residence students (in the case of students living at home) are more likely to be infected. Related to this belief is the tendency to stigmatise and avoid those who are known to be HIV-positive (Barnes 2000: 19-23; Kelly 2001: 19-20; Marcus 2001: 10-16; Smith *et al* 1998: 288).

Towards an Intervention: A Study of HIV/AIDS Amongst Students at the RAU

This study examined the growing pandemic of HIV/AIDS amongst the student population by particularly focusing on RAU. The association between awareness of HIV/AIDS and behaviour in a social/cultural context was investigated. Students' knowledge, awareness and perceptions were determined, and their behaviour was linked to HIV status. This research lays the basis for evidence-based interventions that form part of the institution's broader HIV/AIDS strategic plan.

To determine the knowledge relating to and perceptions of HIV/AIDS, a voluntary, anonymous, confidential survey questionnaire was administered to a sample of RAU

students. The research design emerged through continuous consultation with stakeholders, including RAU management, staff and students. Student inputs in the design process were actively sought. During a February 2001 investigation into the feasibility of the project, the strong likelihood of student participation and interest was ascertained. A total of 13 in depth interviews and two focus groups conducted by trained student field workers in June 2001 guided the wording and inclusion of questions in the survey. Survey questions were additionally drawn from the Love Life survey (Henry Kaiser Family Foundation, 2001), the Family Health International (FHI) HIV/AIDS/STD Behavioral Surveillance Surveys (BSS) (Family Health International, 2000) and the Carletonville study (Williams et al, 2000).

A number of specialists were consulted in relation to the design of the research. Dr. Bryan Williams, then leading AIDS researcher at the Council for Scientific and Industrial Research, commented on initial research memoranda. Mark Heywood, Head of the Aids Law Project at the Centre of Applied Legal Studies, University of the Witwatersrand, provided advice on the chosen form of testing as well as the ethical implications of the research, relating to the availability of free HIV blood testing with pre and post test counselling. The research team constructed the questionnaire in consultation with student fieldworkers and peer educators, which also served to raise awareness. In addition to members of the research team, comments on the questionnaire were received from Livutso Motsielo of the Gauteng Aids Directorate, Gauteng Department of Health, and Dr. Riaan Els of the Carl and Emily Fuchs Foundation. Dr. Charlotte Ingram of HIV Management Solutions, affiliated to the Wits Health Consortium, arranged the collection and testing of the oral fluid (saliva), by making use of Orasure collection devices.

Recommendations from specialists encouraged a range of awareness raising mechanisms, one of which was the training of Peer Educators. A workshop trained 25 student volunteers, who were drawn from the university residences as well as the SRC. The success of this workshop highlights the importance of further similar sessions.

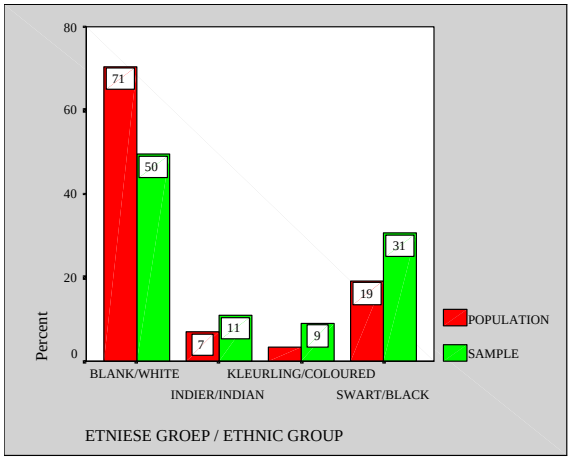
The collection of the data consisted of two components, namely a questionnaire, and an oral fluid (saliva) test. A number was allocated to the oral fluid (saliva) sample, which corresponded to the number on the questionnaire. This enabled us to link the two whilst ensuring anonymity. A total of 1,217 students participated in the study. This represents 7.7% of the university's 15,868 contact students.

The research was undertaken under a canopy placed in an open area between the SRC office and the Student Centre to ensure maximum possibility of participation by students. The aims of the research were also explained to full meetings of the SRC, the Association Council (leadership of student clubs and associations) and the Prim Council (leadership of the various student houses) and their support and involvement were canvassed. These groups collectively participated thereby demonstrating the importance of the research to their peers. All students were further informed about the research through leaflets that were distributed at the university gates and

residences (See Appendix) as well as via posters and banners. We believe that this ensured the widespread participation of different constituencies within the student population.

Since it was not possible to provide students with the results of the test an optional free HIV blood test and counselling were made available to all RAU students, irrespective of participation in the research. The participation of students on a voluntary basis could imply that results are not necessarily representative of the student population. However, an indication of the representivity of the results is determined by comparing the sample and student population in relation to variables such as gender, age, and race.

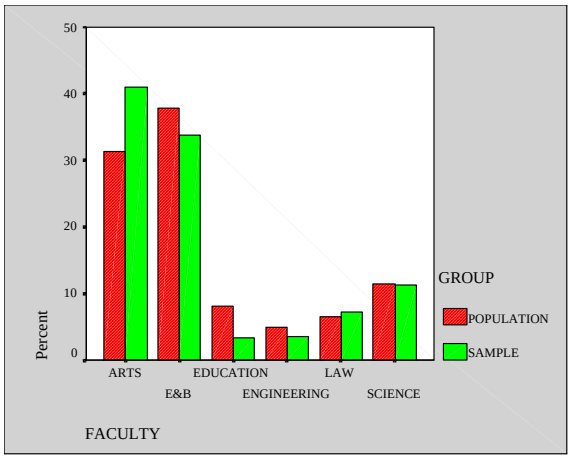
The sample roughly approximates the wider RAU full-time student population. The racial distribution of the sample is comprised of 30.8% black students, 9% coloured students, 10.8% Indian or Asian students and 49.3% white students. The difference between the sample and the population is demonstrated by Graph 1, which shows an overrepresentation of black students in the sample.



Graph 1 Comparison of sample and population in terms of race

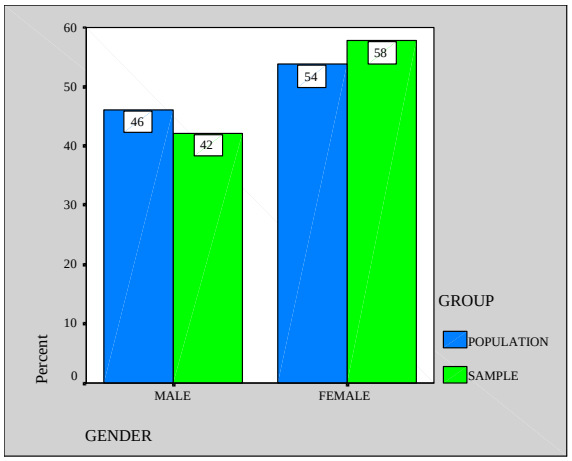
The average age of respondents was 20.5, (standard deviation = 2.975) with 97.3% of respondents falling between the ages of 17 and 27. This is younger than the average age of the student population, which is 24.5 with a standard deviation of 7.63.

The faculty distribution of respondents was as follows: 41.1% Arts, 33.7% Economic and Management Sciences (E & B), 3.6% Engineering Students, 11.2% Natural Sciences, 3.3% Education and Nursing Students and 7.1% Law students. The comparison to the population is indicated in Graph 2 and shows an overrepresentation of students in the Arts Faculty.



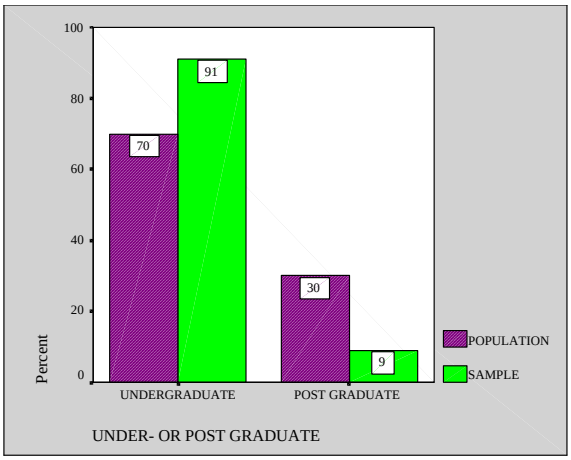
Graph 2 Comparison of sample and population in terms of faculty

There are 57.7% female and 42.3% male respondents in the sample. The comparison to the population is indicated in Graph 3.



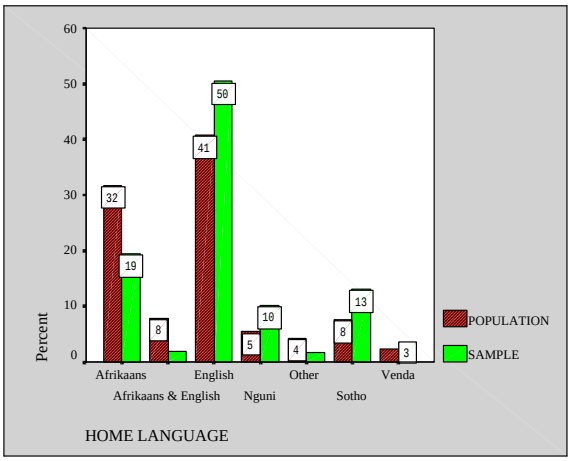
Graph 3 Comparison of sample and population in terms of gender

The sample is comprised of 90.3% undergraduate and 9.7% postgraduate students, which constitutes a clear overrepresentation of undergraduate students. The comparison to the population is indicated in Graph 4.



Graph 4 Comparison of sample and population in terms of undergraduate and postgraduate study

The sample and the population were also compared with regard to home language. Graph 5 shows an under-representation of Afrikaans-speaking students.



Graph 5 Comparison of sample and population in terms of home language

In conclusion the graphs demonstrate that the sample under-represents postgraduate students and Afrikaans students and over-represents black students when compared to the total population.

Preliminary Discussion of Results

The findings from our study show first and foremost that the infection levels for RAU students are significantly lower than reported projections, such as those in the UDW, SAUVCA, Department of Health, and Medical Research Council (MRC) reports. The 2000 Department of Health's antenatal clinic survey reports the age-specific prevalence for the group aged 20 to 24 as 29.1%, while the age group 25 to 29 is given as 30.6% (Kane-Berman 2001). The 2001 MRC report considers the overall

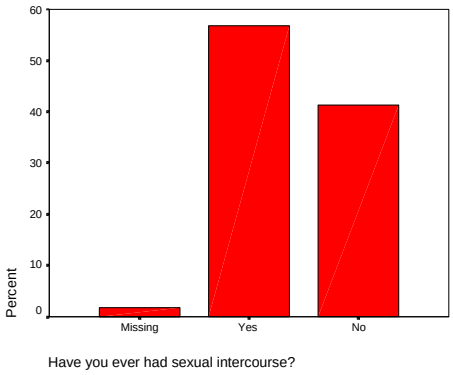
HIV prevalence for the group aged 15 to 29 to be 18% in 2000 with an expected increase to 20% in 2010 (Dorrington et al, 2001). Contrary to these findings, the HIV prevalence for participants in the RAU study is 1.1% (n=13), where the average age of respondents is 20.5, with 97.3% of respondents falling between the ages of 17 and 27.

HIV Status	Frequency	Percent
HIV Negative	1204	98.9
HIV Positive	13	1.1
Total	1217	100.0

Table 1. Infection rates of RAU student participants

Although a random sampling technique would have been ideal in order to facilitate generalisation to the entire student population at RAU, this is unfortunately not currently possible with HIV testing. It is recognised that voluntary testing is biased, in that people who are aware or concerned over their HIV status may be less likely to participate. However, this is an inevitable limitation of HIV prevalence research, since ethics oblige HIV testing to be voluntary and accompanied by counselling and informed consent. In the instance of the RAU research, there are strong reasons to believe that the self-selectivity of the sample has not biased the results in any significant way and has not discouraged people who are concerned over their HIV status from participating, thereby lowering the prevalence. This is evidenced by the fact that 262 (21.5%) respondents reported that they had had a voluntary HIV test previous to this research. Of these respondents186 (70.9%) returned for the result of that test. A substantial number of respondents therefore participated in the research even though they were concerned about their HIV status. This demonstrates that even students who were engaging in risky behaviour and therefore vulnerable to infection were prepared to participate in the research. Furthermore, the overrepresentation of black students and undergraduate students in the sample, who are considered to have a higher rate of infection, means that if anything the real rate of infection of RAU students is likely to be even lower than the 1.1% found in the study. We are therefore of the opinion that the prevalence of 1.1% is reasonably accurate.

The researchers believe that the prevalence is low for a number of reasons. First, a significant proportion of students (42.1%) report that they were not yet sexually active (Graph 6).



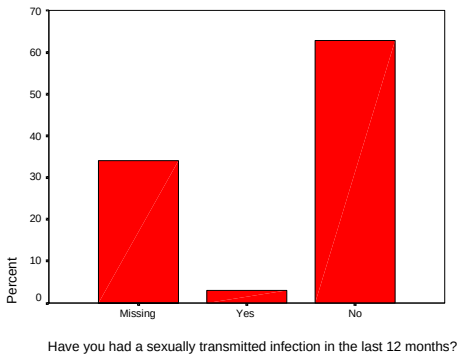
Graph 6 Percentage of sexually active students

Second, HIV prevalence may be low as a result of a relatively high use of condoms. 73.6% of sexually active students reported using a condom with their most recent sexual partner (Table 2). This figure should be seen in the context of 40.6% (n=336) of sexually active respondents perceiving themselves to be engaged in relationship-based sexual intercourse. It is possible that students, who felt they were in a relationship, particularly where they believed they had one uninfected faithful partner, might be less likely to use a condom. This may account for a number of respondents who do not report using a condom, as an absence of condom use in monogamous relationships is perceived as no-risk behaviour. This should be investigated further in future research.

Did you use a condom with your most recent sexual partner?	**Frequency**	**Percent**
Yes	520	42.7
No	187	15.4
Subtotal	707	58.1
Not sexually active	510	41.9
	1217	100.0

Table 2 Condom usage

Third, given that sexually transmitted infections (STIs) increase susceptibility to HIV infection, low prevalence may be related to the low levels of STIs that are evidenced. Only 4.7% of students reported having had a sexually transmitted infection in the last 12 months (Graph 7). The low rate of STIs could possibly be attributed to the fairly high use of condoms among the sexually active students.



Graph 7 Percentage of students who reported having an STI during the last 12 months

Finally, respondents demonstrated a relatively high level of HIV/AIDS awareness, which may impact on the low prevalence. As is shown in Table 3, it is clear that students are knowledgeable of ways to minimise their own risk. Approximately 85% reported that people could protect themselves from HIV by using a condom correctly every time. Furthermore, 79.6% of respondents believed that people could protect themselves from HIV by having one uninfected faithful partner and 85.6% felt that people could protect themselves from HIV by abstaining from sexual intercourse. This shows that the overwhelming majority have internalised the government's 'ABC' message to 'abstain, be faithful and condomise'. This is possibly having the most marked impact on the low levels of HIV infection.

	Yes	No	Don't Know
Does HIV cause AIDS?	901 84.7%	95 8.9%	68 6.4%
Can a person get HIV by sharing a meal with someone who is infected?	37 3.2%	1102 94.6%	26 2.2%
Can a person get HIV from mosquito bites?	65 5.5%	1020 85.9%	102 8.6%
Can a person get HIV by getting injections with a needle that was already used by someone else?	1150 96.5%	31 2.6%	11 0.9%
Can a person get HIV by engaging in oral sex?	757 63.6%	242 20.3%	191 16.1%
Can a pregnant woman infected with HIV or AIDS transmit the virus to her unborn child?	1140 94.7%	51 4.2%	13 1.1%
Can a pregnant woman take medication to reduce the risk of transmission to her unborn child?	978 81.3%	99 8.2%	126 10.5%
Can a woman with HIV or AIDS transmit the virus to her newborn child through breastfeeding?	675 56.1%	232 19.3%	296 26.4%
Do sexually transmitted infections (STIs) increase the risk of HIV infection?	935 77.8%	115 9.6%	152 12.6%
Can a healthy-looking person be infected with HIV?	1154 96.7%	27 2.3%	12 1.0%
Can people protect themselves from HIV by using a condom correctly every time they have sex?	1022 84.9%	161 13.4%	21 1.7%
Can people protect themselves from HIV by having one uninfected faithful partner?	958 79.6%	207 17.2%	38 3.2%
Can people protect themselves from HIV by abstaining from sexual intercourse?	1029 85.6%	153 12.7%	20 1.7%

Table 3 Levels of awareness with regard to HIV/AIDS

Students' sources for this information are varied. The most frequently relied upon source is the media (67.9%), with relatively less use being made of sources like high school programmes (35.8%), relatives (35.1%), friends (40.9%) and government programmes (36.3%) while university programmes are the least likely source for raising awareness (22.2%). It is therefore important that university programmes on HIV/AIDS should be actively promoted and assessed.

Concluding remarks

The results of this study clearly differ substantially from other findings and estimates for the tertiary education sector. The researchers, however, believe that the low prevalence is an accurate reflection of the actual rate of infection in the wider RAU student population. We account for this in two ways. In the first place a comparison of the sample to the student population in terms of gender, race, faculty and postgraduate/undergraduate enrolment revealed that the sample roughly approximates the student population. Whilst there is an over-representation of black and undergraduate students in the sample, a correction for this would reduce the prevalence rate even further.

Secondly an investigation of students' social behaviour supports the finding of a low prevalence rate. Four aspects are particularly important here. First, a significant proportion of students (42.1%) reported that they were not yet sexually active. Second, there was a relatively high use of condoms, 73.6% reporting using a condom with their most recent sexual partner. Third, low levels of sexually transmitted infections (STIs) were evidenced, with only 4.7% reporting having had an STI in the last 12 months. Finally, and perhaps crucially, respondents demonstrated a high level of HIV/AIDS awareness.

Previous studies indicated that students were generally knowledgeable about the causes and modes of transmission of HIV/AIDS (Barnes 2000: 17; Friedland et al 1991: 151; Kaya & Kau 1994: 11-12; Kelly 2001: 19; Marcus 2001: 3-4; Smith et al 1998: 283-285). Our study shows that RAU students are also generally knowledgeable, however, there are gaps in their knowledge relating to mother to child transmissions (MTCTs), and transmissions relating to oral sex and STIs, an area which can be addressed in future awareness campaigns. Contrary to previous findings, RAU students' differ in that their awareness of HIV/AIDS corresponds with safer sexual practices and an internalisation of the 'ABC' message (Barnes 2000: 23-29; Friedland et al 1991: 151-152; Kaya & Kau 1994: 13; Marcus 2001: 4-10; Smith et al 1998: 285-288). Additionally, a substantial number of RAU students are not sexually active. RAU students also have a generally positive attitude towards using condoms.

We believe that the low prevalence of HIV on RAU's campus is largely related to the high level of awareness amongst students, which results in risk-minimising behaviour. University students are more highly educated than the average of their age

cohort, and this may encourage a higher level of awareness. It is also possible that RAU's reputation for being a peaceful, disciplined campus might tend to attract the more conservative students. This is certainly supported by the relatively low number of students who are sexually active in comparison to the high levels of sexual activity reported at other institutions (Barnes 2000: 23-29; Friedland *et al* 1991: 151-152; Kaya & Kau 1994: 13; Smith *et al* 1998: 285-288).

Further research is recommended, both at RAU and at other tertiary institutions. The situation on the RAU campus should be monitored by repeating the research at regular intervals. In addition, similar studies on other campuses would provide a valuable comparative dimension. This will allow us to develop a further understanding of rates of infection and of how they might be reduced. Also, further investigation is required into why prevalence rates among students are probably lower than predicted.

Also, since estimates of prevalence are based on an extrapolation from a national model concerned with race, gender, age and province, it is possible that there is an underestimation of other variables that may be significant in determining levels of HIV infection. Specifically, since all those surveyed in this case were university students, level of education may be a key determinant of rates of HIV prevalence. Research should therefore be conducted with regard to the possible relationship between HIV/AIDS and a variety of socio-economic factors such as education, income, conservative sexual attitudes and behaviour, and social class. This should not be confined to the national level but should also recognise the particularities of specific contexts as in the case of universities or schools.

The findings presented here cannot be interpreted as casting doubt on the generally accepted figures for HIV prevalence for the South African population as a whole. Nor should they be interpreted by students - whether at RAU or elsewhere - as meaning risks of HIV infection are so low they can ignore the 'ABC' advice. Nor, either, should they be interpreted by the RAU Management as meaning that it need not concern itself with HIV infection among the university's students. With regard to this final point, the researchers re-iterate proposals that have been made on previous occasions, including one for the appointment of a full-time campus AIDS Co-ordinator.

Finally, since a high level of awareness seems to be one of the driving forces in keeping our HIV prevalence low, it is of vital importance that awareness campaigns are intensified, not only at RAU, but across the higher education sector, and, indeed, within society in general.

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