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## HIV/ AIDS at the University of Botswana: behavioural and prevention issues

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*This paper is based on the study of knowledge, attitudes, and behavioural aspects of HIV/AIDS among 1372 students of the University of Botswana. The study triangulated both quantitative and qualitative methods to espouse the knowledge, behaviours and attitudes of University of Botswana students on HIV/AIDS. Simple descriptive statistics were utilized to analyse quantitative data while grounded theory techniques were used to analyse the qualitative data. The purpose of the study was to identify the behavioural risk factors that predispose to HIV/AIDS and to recommend appropriate intervention strategies. Five main areas were investigated: knowledge and personal experiences on HIV/AIDS, sexual behaviour and practices, perceptions on risky sexual behaviour on the University of Botswana campus, and factors that students thought contributed to the spread of HIV/AIDS.*

### **Introduction**

Our study indicates that students have factual knowledge and information about HIV/AIDS, but their actual sexual practices and behaviour do not reflect this high level of knowledge. Students engage in risky sexual behaviour including sexual experience in early youth, unprotected sex, casual and multiple partners. Urgent measures need to be put in place by the University of Botswana for an aggressive and targeted campaign for positive behaviour change.

The focus of this paper is to highlight these issues of risky behaviour and to make recommendations on the prevention and control of HIV/AIDS on the campus. The prevention and control of HIV/AIDS measures are envisaged to extend beyond the boundaries of UB due to the interactions that occur between the students and members of the community. Significant in this endeavour is collaborative effort between the UB and its partners such as the Ministry of Education and other educational institutions and the public at large in addressing the epidemic.

The last two decades have witnessed the gradual extension of the HIV/AIDS epidemic to virtually all communities in all parts of the globe. Since the beginning of the pandemic, an estimated 47 million people have been infected, of whom 14 million have died from the ensuing disease. In 1998 alone, 2.5 million deaths were attributable to the HIV/AIDS (UNAIDS, December, 1998, Caldwell, 1999). In Africa, HIV/AIDS continues to spread with little sign of abating. About 70% of all HIV infections occur in this continent, together with 80% of all AIDS-related deaths. When these figures are considered against the fact that Africa only has a tenth of the total world population the impact of AIDS becomes self-evident. Among the most severely affected areas are those countries in Southern Africa, where between 20%-26% of the population in each country is now infected with the HIV virus (UNAIDS, December, 1998). The continued spread of the virus in this part of the world has the real potential of reversing, if not negating, the modest development gains which these countries have striven so hard to achieve over many decades.

In Botswana, the 1999 Sentinel Surveillance Report indicates that HIV/AIDS prevalence rates among pregnant women have continued to increase. Out of a total of 2 586 pregnant women tested, 928 (35.88%) were found to be HIV sero-positive. The highest prevalence

was found in the Chobe district, where 50.83% of the pregnant women who were tested were found to be HIV sero-positive. The sero-positive rate among pregnant women has continued to escalate in other urban centres. For instance, between 1992 and 1999, sero-prevalence in Gaborone has risen from 14% to 37%, and from 23.7% to 42.96% in Francistown in the same period. HIV sero-prevalence among men who seek medical attention for sexually transmitted diseases other than AIDS has also shown a continuous rise, with co-infection rates of 62% and 50.66% detected among STD patients in Francistown and Gaborone respectively (Sentinel Surveillance Report, 1999). This trend indicates that the intervention strategies that have been put in place thus far, have had little impact. More rigorous, creative and appropriate intervention strategies are yet to be put in place in order to curb the epidemic and prevent new infections.

Literature review has focused on four areas: behavioural risks of HIV/AIDS transmission, stigmatization of HIV/AIDS, strategies to control HIV/AIDS and lastly, the relationship of the level of education and the spread of HIV/AIDS.

### **Behavioural risks of HIV transmission**

Reports on the epidemic indicate that HIV/AIDS progresses differently in different situations. It is driven by individual behaviour that put people at risk of infection. Such behaviour may also be influenced by poverty, inequities in gender relationships between the old and young, and limited knowledge about the nature of the infection and ways of preventing it. They may also be driven by cultural and religious norms that empower some people to have control over their exposure to the virus, and leave others vulnerable to the threat of exposure to the virus. The social, economic and cultural situations that create this kind of vulnerability to HIV have not been adequately studied or explained (Report on Global HIV/AIDS Epidemic, 1998). However, there are a number of lessons that have been learnt from countries that have launched successful prevention campaigns in such situations.

There is an on-going debate as to whether prevention can work once the epidemic is already in a phase of rapid growth. The 1998 UNAIDS Report suggests that it can. Thailand is often cited as an example of a country where HIV infection came much later than in many African countries, but spread with dramatic speed as revealed by Thailand Sentinel HIV sero-surveillance. With an HIV infection rate of about 44%, sex workers were identified as the population "at risk" in Thailand. Thai authorities carried out national surveys of sexual behaviour and found that high proportions of men had sex outside marriage, mostly with sex workers. The results of this survey were widely publicized, and the government response was to set up partnerships with the management of brothels to address the problem. With government support, brothel owners and sex workers began to enforce a policy of 100% condom use in brothels, in an attempt to reduce transmission at what seemed to be the focal point of infection in Thailand.

Educational campaigns were also mounted to discourage commercial sex among men while women were offered better educational and vocational opportunities to keep them out of the sex industry. There is evidence to suggest that large scale information and prevention campaigns targeting the population help to control the transmission of HIV. These campaigns targeting the population help to control the transmission of HIV. These educational campaigns target specific risk behaviours. In Nepal, for instance, a vigorous campaign to inform truck drivers and sex workers of the risk of unprotected sex, plus the provision of condoms at convenient points along truck routes, successfully reduced the high risk behaviours of sex and transport workers (UNAIDS, 1998).

In many countries drug injection accounts for more HIV infections than sexual intercourse. High rates of HIV infection have been recorded in Malaysia, Vietnam, Southwest China, and India among injecting drug users. These rates highlight drug injecting

as a major route of HIV infection. A similar pattern has also been established in Europe, where illegal drug injection accounts for 44% of HIV/AIDS cases (WHO, Programme on Substance Abuse, 1997). In Sub-Saharan Africa, however, the majority of HIV infections occur through heterosexual relationship. Identifying the route and mode of transmission in any specific situation is imperative for appropriate and effective intervention strategy.

### **Stigmatization and HIV/AIDS**

Stigmatization poses a problem for both the persons affected by HIV/AIDS as well as their families. These persons in fact become double victims because firstly they have a debilitating fatal disease and secondly, they have to deal with the social stigma (Davis, 1993). Disclosure of test results can result in disrupted personal relationships, domestic violence, loss of housing and health insurance, and disruptions in educational opportunities (Sowel et al, 1997). HIV/AIDS devalues individuals and society as a whole.

HIV was for many years and is still a silent epidemic. Even when millions of people were infected with the virus, very few showed outward signs of illness. As the epidemic matures in many parts of the world, its effects have become more visible. As more and more people develop illnesses associated with AIDS, communities are becoming increasingly concerned about caring for people who are affected by the illness. Hopefully, as the horrifying consequences of the epidemic become visible, there will also be an increased momentum for preventing new infections.

An attempt at preventing Mother to Child Transmission (MTCT) was launched in Botswana in April 1999, with a view to curbing the spread of the infection to future generations. As the implementation of such preventive programme progress, the issues surrounding the stigmatization of infected mothers as well as the public perception of the strategies of MTCT prevention of HIV, will become evident and will no doubt represent new challenges to widespread acceptance.

### **Strategies in the control of HIV/AIDS**

The Report of the Strategic Meeting on Prevention of HIV/AIDS (1994) indicates that there are no standards or a universally valid package of approaches that are used to control HIV/AIDS. Rather the need to select these according to the local context and to tailor them to the needs of the target populations has been emphasized. There is evidence to suggest that approaches have a better chance of producing the desired results when a number of them are combined. The report further gives examples of communication approaches to promote safe sex behaviour, promotion of condom use and prevention of STDs.

The World Bank ranks STDs as the second largest health problem after maternal mortality for women of ages 15 to 44 years in developing countries. Rigorous strategies have to be devised for the prevention of STDs which, if left untreated, can increase HIV transmission by as much as 5 to 10 fold (Report of Strategic Meeting Prevention of HIV/AIDS, 1994). Communication strategies aimed at promoting safer sexual behaviour have improved knowledge and attitudes towards AIDS, and also increased safe sexual practices. The "Stop AIDS" campaign in Switzerland contributed to a 42% rise in condom use among young people of ages 17 to 30. Behavioural surveys in Senegal showed consistently low rates in HIV infection that can also be attributed to high condom use. According to National AIDS Programme in Senegal (1998), condom distribution figures rose from 800,000 in 1988 to over 7 million in 1997. Condom use can therefore be expected to have had a positive impact on lowering infection rates of all STDs, including HIV/AIDS.

## **Relationship of education and spread of HIV/AIDS**

A review of the relationship between education and HIV/AIDS illustrates the many pitfalls of trying to draw conclusions about the determinants of the epidemic. It seems reasonable to assume that more educated people would have better understanding and better access to information about HIV, i.e. its mode of transmission, its consequences, and methods of prevention. If educational levels were considered an indication of the level of awareness in a country, it would be expected that countries with high literacy levels would have low levels of HIV infection. The converse should also be expected to hold true.

The Report on the Global HIV/AIDS Epidemic (1998) compared literacy and HIV/AIDS for 161 countries for which there are data on both HIV and literacy rates. For much of the developed world, the relationship between high literacy and low infection rates is evident. Sub-Saharan Africa, however, presents an atypical picture. In this part of the world, the countries with the highest rates of HIV infection are those where the literacy rates are also highest. Southern Africa has among the higher literacy rates on the continent. Yet it is currently hardest hit by the HIV/AIDS pandemic, with an estimated 25% of its adult population already infected with the HIV virus. The peculiarity of this inverse relationship is yet to be adequately explained. The implication would be that in tertiary institutions such as the University of Botswana, the occurrence of high HIV infection rates would be in line with the general expectations for the sub-region.

## **Rationale and scope of the study**

Press reports of apparently high rates of HIV infections among students of the University of Botswana have been difficult to confirm. The reason being that in the absence of a seroprevalence survey among students of the University of Botswana, no reliable information exists, which depicts the true level of infection. Information based on voluntary testing is scanty and unreliable as very few students request the HIV test. Despite the paucity of data on HIV prevalence among students, there is anecdotal evidence to suggest that exposure to infection with HIV/AIDS and other sexually transmitted diseases through unprotected sexual activities is likely to be high.

Examination of the records at the University Clinic revealed that about one in every ten presentations were for sexually transmitted diseases, while for the first 9 months of the 1998/1999 academic year, 79 students were newly registered for antenatal care at the campus clinic (this excludes those who were registered elsewhere). In addition, selective HIV testing of students who presented during the past 21 months with clinically suspicious signs of HIV/AIDS showed that 37 tests of the 98 tests which were performed, tested positive for HIV infection. Four students, three of whom were Batswana, had already discontinued their studies as a result of full-blown AIDS.

The current background of the HIV/AIDS epidemic, which the country is experiencing, is evident of increased exposure and increased risk of infection with HIV. The University of Botswana authorities have been concerned and anxious to put in place effective and appropriate measures to influence student knowledge and behaviour in order to curb the spread of HIV infection. For such interventions to be relevant and appropriate to students and campus life, a KAPB study was undertaken between March and April 1999 among University of Botswana students to elucidate the behavioural risks factors, which predispose to HIV transmission.

The purpose of the study was to identify the behavioural risk factors that predispose to HIV/AIDS transmission in the UB student population and to recommend appropriate intervention strategies.

The objectives of the study were:

- To determine the level of factual knowledge of the causes of HIV infections and AIDS and the mode of transmission of the infection.
- To identify behavioural and attitudinal factors which may contribute to the spread of HIV/AIDS on campus.
- To identify appropriate strategies for intervention to raise awareness and modify risk behaviours.

There were five areas of investigation:

- Knowledge about HIV/AIDS
- Personal Experience with HIV/AIDS
- Sexual Behaviour and Practices
- Perceptions of Risky Sexual Behaviours in the UB Campus
- Factors that contribute to the spread of HIV/AIDS

**Methodology.** The population under study was the UB student community. The total number of students for the 1998/99 academic years was 8,881, 80% of whom were full time and 20% part-time. About 55% were resident on campus and 45% lived off campus. All part-time students lived off campus.

A stratified random sampling technique was used for selecting the sample. Stratification was based on faculty and year of study where the sampling unit was the class (e.g. E101 or DABS 212, etc). Individuals in the selected classes formed the unit of analysis. UB has six undergraduate faculties (Business, Education, Engineering and Technology, Humanities, Science and Social Sciences and the School of Graduate Studies). In each stratum, sampling was done proportional to size.

A sample size required for 99% confidence level was 622 but researchers decided to double the figure in order to capture all the dynamics that existed. A total of N=1374 students responded to the questionnaire.

**Data collection.** Two approaches were used: qualitative and quantitative. A questionnaire was used for the survey to capture quantitative data while focus group discussions were used to gather the descriptive and narrative data. Ten focus groups were planned, however, only two ended up being conducted due the fact that it was examination time and it was very hard to organise the groups.

**Study Findings.** The results are based an analysis of 1327 respondents and two focus group discussion. About 49.5% were female and 50.1% were male, 89% of the respondents were single and 10.9% married. Mean age of respondents was 23.7 male and 25.6 females and that of their partners was 21.6 to 30.6 respectively. This indicates that females tend to have older partners whilst males have younger partners.

Knowledge of basic facts on HIV/AIDS was asked and students demonstrated a high level of factual knowledge on HIV/AIDS with 85% of the respondents obtaining high scores in this area. The mean score was 11.3 (out of 13) with a standard deviation of 1.32 thus indicating a high level of knowledge of the facts of HIV/AIDS among students.

### **Sexual Behaviour**

This section looks at sexual behaviour and the nature of relationships. Sexual relationships appear to be common among most students. By end of first year at least two thirds have established a relationship, with more females (76.9%) than males (61%) entering into a relationship.

Only a minority of the partners of both male and female students were resident on campus (12.4% and 10.2% respectively). With over 80% of their partners living elsewhere in the country, it is indicative that there are considerable interactions between the student body and the outside communities. Early penetrative sexual experience is quite common. About 82% of the respondents indicated having had this experience with both sexes similarly involved (80.3% males and 76.7% females). First exposure to penetrative sex occurs between 12 and 14 years and by 23 years of age 94% had experienced it. Focus group discussions also confirmed that sexual activity starts at the age of 12. Therefore, by the time students come to UB, they are already engaged in penetrative sex. Sexual activity was also reported to be high amongst students. The majority of students are sexually active and this finding is not surprising. These early sexual experiences have implications for relevant and appropriate education and prevention activities on the spread of HIV/AIDS.

**Condom Use.** Only two thirds of the respondents reported consistent use of condoms (68.2%). Condoms are used more by males than females—again another expected finding because of the nature of the device and also because of the power relations between males and females when it comes to decision-making concerning sexual matters. Males have more power in decision making on sexual matters. Females on the other hand are unable to negotiate safe sexual practice. Unprotected sex is still being practiced and this poses high risk of contracting the infection.

**Risk Behaviours.** Respondents enumerated several factors that they considered put them at greater risk of contracting HIV infection. Among the reasons given for this apparent high risk, the most common were the abuse of freedom (43.1%), increased sexual temptations (42.2%), peer pressure (33.5%), and more casual sex (31.5%). All these precursors to risky behaviours occur in spite of the fact that 97% of the respondent considers themselves knowledgeable about HIV/AIDS. Interview data from focus group discussions also indicated that students engaged in casual sex such as partner exchange and sex exchange for material goods or money.

Factors that are mostly associated with risky sexual behaviours include alcohol abuse (87.6%), unprotected sex (84.7%), frequent change of sexual partners (76.4%), and exchange of sexual partners (74.4%). Sex is also seen as a bartering tool for good grades. Some engage in sex to relieve stress, especially students in their first year of study. Males consider having multiple partners as prestigious: that if one does not have many partners, the person may be laughed at and often times called by names such as “sack”.

## **Discussion**

The results of the study indicated that knowledge about basic facts about HIV/AIDS appeared widespread among UB students. The students are fully aware of the nature and consequences of HIV infection and 87% of the students regularly update their knowledge about the state of the epidemic.

Despite this high level of knowledge about HIV/AIDS, the students' behaviour does not reflect this understanding. This is demonstrated by some students still engaging in high risk behaviours such as multiple and casual sex partners, unprotected sex, sexual relations for exchange of material goods and money. About 33% of students are not using condoms consistently irrespective of the high level of knowledge on the nature and risks of infection.

The fact that the partners of at least 87% of the students reside outside the campus calls attention to the considerable interactions between student population and outside communities. These interactions may be expected of a young and mobile student population. Nevertheless, it emphasises the need to extend any public health measures beyond the boundaries of the university, since the nature of sexual interactions with off-

campus communities has a direct bearing not only on student behaviour but also on the potential for HIV infection.

From the evidence of high-risk sexual activity, which this study has provided, it is clear that aggressive, focused and well-targeted health education campaigns are called for. These educational campaigns should target behaviour change. It is quite evident that programs to combat the spread of HIV/AIDS should start very early because by the time students come to the university, they are already veterans in sexual relationships.

### Recommendations

- There is a need for messages about HIV/AIDS that are more relevant and appropriate to students' life to target behaviour change.
- There is also a need for a shift in emphasis from mere provision of information about the infection to ways of influencing positive behavioural change.
- Peer educators should be identified, trained and enlisted in this new drive for behavioural change because with appropriate training and encouragement this group of students can have a positive effect on the sexual behaviour of their contemporaries.
- Prompt treatment of STDs should be given in order to reduce the risk of co-infections.
- Partnerships should be formed with other agencies to address the educational issues of HIV/AIDS, e.g. Ministry of Education to start education and awareness on HIV/AIDS right from primary school level to continue through secondary level and to university level.

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