

## **HIV DISCLOSURE AND SEXUAL PRACTICES OF ART PATIENTS AT ONE CENTRE IN SWAZILAND**

**P.P. Okoth**, MPH  
University of South Africa  
Department of Health Studies.

**D.M. van der Wal**, D Litt et Phil  
University of South Africa  
Department of Health Studies  
Corresponding author: vdwaldm@unisa.ac.za

### **ABSTRACT**

Concern has been raised about the ART patients relinquishing the principles of the ABC (abstain, be faithful and condomise) approach to the prevention of HIV infection once the positive effects of ART are experienced. Ten years after the launch of the national ART programme in Swaziland, it remained unknown to what extent this concern applied to ART patients attending one ART clinic in Swaziland.

This study sampled 340 ART patients from one ART clinic in Swaziland. A purposely designed questionnaire covering four indicators of sexual practice namely: number of children hoped for, type of sexual relationship, number of sexual partners and condom use were administered to respondents by four field workers. The main statistically significant findings of this study included:

- Females were more likely to disclose their HIV status than males
- Males were more likely to use condoms than females
- There was an association between religion and disclosure, but clergy were the least “trusted” persons to whom the respondents would disclose
- The notion of increased promiscuity accompanied with prolonged ART, was contradicted

These findings must be interpreted within the context of the target population – ART patients attending one ART clinic in Swaziland.

**KEYWORDS:** antiretroviral (ARV), antiretroviral treatment (ART), condom use, disclosure of HIV status, people living with HIV/AIDS (PLWHA), sexual practices, Swaziland

## **INTRODUCTION AND BACKGROUND INFORMATION**

Swaziland is severely affected by the HIV/AIDS epidemic. Approximately 220 000 people live with HIV/AIDS, including 15 000 children aged 15 or younger (MOHSW, 2004:4; Central Statistics Office [CSO], 2007: 37-38; USAID, 2010:1; UNAIDS, 2007a:16). According to Swaziland's 11<sup>th</sup> National Sero-surveillance Report, the HIV prevalence among pregnant women was 42% and many of new infections (62%) occurred among females, a trend suggesting that new infections and HIV epidemic levels were not decreasing (MOH, 2008:9 & 27; USAID, 2010:1). For every two HIV positive adult men, there are three HIV positive adult women. The highest HIV prevalence rate (48.9%) occurred among women aged 25-29 while men aged 35-39 had the highest HIV prevalence (44.9%). Men, aged 35 and older, were more likely to be HIV positive than women but women, up to 35 years of age, were more likely to be HIV positive than men. AIDS accounted for an estimated 7 000 deaths in 2009 and 69 000 children, aged 0-17 were orphaned due to AIDS (SDHS, 2006-2007: 222; USAID, 2010:1; UNAIDS, 2010).

### **Swaziland's ART programme**

During 2003, Swaziland launched the national antiretroviral (ARV) program and during December 2007, approximately 21 670 people (out of an estimated 58 250 people in need of ART) had started using ARVs (Estimation and projections for Swaziland draft workshop report, 2007:3). During 2008, ART and other HIV/AIDS services were offered at 51 public and private health facilities in Swaziland (MOH, 2008:1).

The centre, where the current study was conducted, was established in 2002 and is the largest public ART clinic in Swaziland (Global Fund, 2007:2; The Government of the Kingdom of Swaziland, 2008:41), and provides services to 5 727 registered ART patients, 60% women and 34% men aged 15 and older, and 6% children under 15 years of age (MOH, 2008).

### **ART and sexual practices**

Advances in ART have helped many HIV positive persons to enjoy increased health and longer lives, including renewed interest in sexual activities. The more sexually active one becomes, the higher the possibility of new infections, especially if safe sex is not practised. In the era of ART, the role of PLWHA in the development and implementation of effective HIV prevention strategies cannot be ignored (NAPWA, 2004:1; Sarna, Luchters, Kaai, Munyao, Geibel, Shikely, Mandaliya, Hawken, Van Dam & Temmerman, 2005:1; UNDP, 2006).

With the rollout of ART in Swaziland its potential to prolong lives of HIV infected individuals necessitated an understanding of the sexual behaviour of ART patients to curb HIV transmissions. Increased ART access, accentuates the importance of addressing risk-taking behaviours among ART patients, because they live considerably longer, increasing the duration of potential HIV exposure (Lurie, Pronyk, De Moor, Heyer, DeBruyn, Struthers, McIntyre, Gray, Marinda, Klipstein-Grobusch & Martinson, 2008:484-485).

### **Negative sexual practices associated with ART**

Recent reports indicated reduced preventive behaviours among ART patients who improved physically (Andia, Kaida, Maier, Guzman, Emenyonu, Pepper, Bangsberg & Hogg, 2009:344), especially those with low viral loads (VLs). Some ART patients might feel protected (Sarna et al., 2005:1) from transmitting HIV and might engage in unprotected sex increasing their risk of transmitting HIV and re-infecting themselves with drug resistant strains of the virus. Diabaté, Alary and Koffi (2008:155) reported a causal relationship between the use of ART and increased sexual risk behaviours among HIV-1 infected patients in Côte d'Ivoire.

Chin-Hong, Deeks, Liegler, Hagos, Krone, Grant and Martin (2005:468) found a prevalence of high risk sexual behaviours among HIV infected men and women, harbouring genotypically proven ARV-resistant viruses in their blood, and those on ART. An estimated 25% of these men and women had engaged in unprotected sex during the four months preceding this study and 15% had intercourse with sexual partners of either unknown or known HIV positive status. Furthermore, 90% of those with drug resistant HIV strains reportedly had high risk sex with a partner whose HIV status was negative or unknown. These persons' VL exceeded 1 500, indicating that HIV transmission would have been possible in most cases.

Lurie et al. (2005:491) observed similar associations between high CD4 counts and many sexual partners, underscoring the importance of potential HIV transmissions in Southern Africa among the ART populations. In Swaziland, consistent condom use has been compromised by ART which is confused or wrongly perceived by people as a substitute for condom use (The Government of the Kingdom of Swaziland, 2006:27).

### **Positive aspects relating to ART**

A study conducted by Sarna et al. (2005:2-5) in Mombasa, Kenya, observed lower risk behaviour among ART patients. One percent (1%) of the ART patients reported having two or more sexual partners compared to 13% of those not on ART. In addition, 3% of the ART patients reported having sex with casual sex partners compared to 23% of

those not on ART, and consistent condom use was reported by 53% of those on ART compared to 22% who were not on ART.

Other studies also reported that ART patients engaged in less risky sexual behaviours than other people living with HIV/AIDS (Diamond, Richardson, Milam, Stoyanoff, McCutchan, Kemper, Larsen, Hollander, Weismuller, Bolan & The California Collaborative Trials Group 2005:218). Similarly, Spire, De Zoysa and Himmich (2008:3), revealed that the odds ratio of systematic condom use was twice as high among sexually active ART patients as among those not on ART. Bunnell, Opio, Musinguzi, Kirungi, Ekwaru, Mishra, Hladik, Kafuko, Madraa and Mermin (2006:90) observed that ART, prevention counselling and partner VCT was associated with a 70% reduction in risky sexual behaviours and 98% reduction in HIV transmission to uninfected sexual partners after six months of ART in rural Uganda. Fougelberg, Karlström, Veriava, Ive and Anderson (2006:13) observed a significant increase in condom use with regular and casual sex partners for both genders after initiation of ART, compared to rates before HIV diagnosis. ART was associated with lower risk sex behaviours, higher disclosure rates and ART adherence attributed to peer counselling (Deribe, Woldemichael, Wondafrash, Haile, & Amberbir, 2008:87).

### **Disclosure of HIV status**

Disclosure of one's HIV positive status is a complex, difficult and very personal matter because it involves communication about a potentially life threatening, stigmatised and transmissible illness. As a result, the choices a person makes about disclosing his/her HIV status are not only personal but varied across different age groups, in different situations and contexts, and even with different partners, and might change over time, depending on one's experiences (Remien & Bradley, 2007:64E). HIV transmissions could be reduced if HIV positive persons adopt and sustain HIV risk reduction behaviours, including disclosure of their status to their sex partners (Niccolai, King, D'entremont & Pritchett, 2006:102). PLWAH have a critical role to prevent the further spread of HIV because with every new HIV infection, an HIV positive person is involved. So changing the behaviour of one HIV infected person might help to prevent HIV infections of that person's sexual partners (Kalichman, 2005:536). All HIV positive persons should be responsible for their own sexual health and inform all their partners about their HIV status (UNDP, 2006; UNAIDS, 2007b:1-2).

VCT is promoted as the first important step in behaviour modification. However, the benefits of behaviour modification and of VCT cannot be realised without HIV status disclosure (Norman, Chopra & Kadiyala, 2005:1). Disclosure might offer important benefits to the infected individual and to the public. Disclosure of one's HIV status to one's sexual partners could be associated with less anxiety and increased social support. It might lead to improved access to HIV prevention and treatment opportunities. Risk

behaviours change most dramatically among couples aware of each other's HIV sero-status, enabling them to make informed reproductive health choices, decreasing the number of unintended pregnancies among HIV positive women (Parsons, Schrimshaw, Bimbi, Woliski, Gomez & Halkitis, 2005:S87-88) and mother to child transmission (MTCT).

On the other hand, disclosure of one's HIV status comes with the fear of stigmatisation and discrimination. Nachega, Lehman, Hlatshwayo, Mothopeng, Chaisson & Karstaedt (2005:200) suggested that some HIV infected persons might be reluctant to disclose their HIV status because of fears about their partners' reactions. As a result, those HIV positive persons who kept their status secret, even to their sexual partners, consequently, created new infections (The Government of the Kingdom of Swaziland, 2006:7).

In Swaziland, few people living with HIV/AIDS, especially prominent people like religious and traditional leaders, political and media/sports personalities have publicly revealed their status. The stigma associated with HIV/AIDS still greatly hinders the flow of information to communities, hampers prevention efforts, and reduces the utilisation of services (USAID, 2005).

## **RESEARCH PROBLEM**

The use of Highly Active Antiretroviral Therapy (HAART) has been associated with decreased HIV-related morbidity and mortality, significantly lowering the VL, hence reducing the risk of HIV transmission (Sarna et al., 2005:1; Castilla, Del Romero, Hernando, Marincovich, Garcia, & Rodriguez, 2005:101). However, reduced preventive sexual behaviours, including disclosure of HIV status among ART patients, especially when they recover and regain their sexual abilities, have also been observed (Sarna et al., 2005:1). This could pose a serious public health risk of transmission of resistant viral strains and of re-infection with new viral strains, as some ART patients might feel protected from passing HIV to their sexual partners or from contracting sexually transmitted diseases (STDs) due to their lowered VL due to ART (Eisele, Matthews, Chopra, Silvestre, Brown, Daries & Kendall, 2008:575-576).

With regard to the current study, the problem is that it is unclear what the situation is in Swaziland regarding HIV status disclosure and sexual practices of ART patients.

## **Purpose and objectives of the research**

The purpose of the current study was to identify and describe, quantitatively, context-specific factors influencing sero-status disclosure and sexual practices among ART patients at one VCT/ART centre in Swaziland.

The objectives of this study were to

- Describe the sexual practices, condom use and HIV disclosure practices among ART patients
- Determine the relationships among sexual practices, condom use and disclosure among ART patients

A quantitative, descriptive and exploratory design was employed to determine the HIV disclosure and sexual practices among ART patients. Descriptive statistics, including Chi-squares to determine associations, were calculated.

## **RESEARCH METHODOLOGY**

### **Population and sampling**

The population comprised ART patients, aged 18 and older. The target and accessible population comprised ART patients, aged 18 and older registered at the participating VCT/ART centre at the time of data collection.

Pharmacy antiretroviral refill registers were used as the sampling frame, to obtain the list of all ART patients at the VCT/ART Centre. The inclusion criteria required respondents to be ART patients, male or female, aged 18 years and older, registered at the VCT/ART centre and willing to participate in the study. Exclusion criteria were persons not on ART or unwilling to participate in the study.

Cooper and Schindler's (2006:435) formula for sample size estimation was used. The calculated crude sample size was  $N=323$ . A 5% adjustment of sample size was made assuming that 5% of questionnaires would be inadequately completed, setting the final sample size at  $N=340$ .

Systematic random sampling with an interval of 6, required a daily sample of 20 (Monday to Friday) ART patients, repeated daily for four weeks to obtain the required sample size. Each respondent completed only one questionnaire.

### **Data collection**

A self-designed questionnaire, based on the findings of a literature review, was used. The questionnaire comprised four sections namely socio-demographic information, disclosure practices, sexual practices and ART. Constructs were tested mostly through items with a four-point Likert scale.

The instrument was pretested with 10 HIV positive persons on ART enrolled at another VCT/ART centre. Improvements were made relating to clearer instructions, adding additional options to certain items and correcting spelling and numbering mistakes. Three male and one female fieldworker, recruited from the research site, were trained and collected data during August 2010.

Face and content validity, and to some extent construct validity, of the instrument were established through a comprehensive and relevant literature review, on which questionnaire items were based, as well as the involvement of an expert “jury opinion” (Monette et al., 2002 cited in De Vos, Strydom, Fouché & Delpont, 2006:161). To enhance external validity, systematic random sampling was conducted, low response rates were avoided and all respondents were assured about anonymity, confidentiality and privacy (Burns & Grove, 2005:287).

The Cronbach (reliability) coefficient for the questionnaire as a whole was  $\alpha=0.875$ . According to Burns and Grove (2005:287) an alpha coefficient of 0.70 is sufficient for newly designed instruments.

### **Data analysis**

Data were captured using Epi-info version 3.5.1 and analysed using the Statistical Package for Social Sciences (SPSS) program, version 14.0. Most questionnaire items were coded for easy computer analysis. Responses to the open-ended items were categorised and summarised. Frequency tables, percentages, graphs and charts were compiled. Chi-square ( $X^2$ ) computations and contingency tables allowed the identification of statistically significant relationships between key variables (Polit & Beck, 2008:601)

### **Ethical considerations**

The four basic ethical principles of respect for autonomy, justice, beneficence and non-maleficence, together with ethical rules such as anonymity, privacy and confidentiality were maintained with regard to the respondents, the clinic where the data were collected and the researcher. Informed consent and safekeeping of information were maintained. Ethical clearance was granted by the Higher Degrees Committee of the Department of Health Studies, University of South Africa. Approval was also granted by the Ministry of Health and Welfare of Swaziland.

## FINDINGS

### Demographics

Of the respondents (N=340), 75.3% (f=256) were female and 24.75% (f=84) were male. No respondent was under the age of 18 and the oldest persons were older than 60 (2.7%; f=9). Most respondents' ages were between 25 and 39 (59.1%; f=201), the age group in Swaziland exhibiting a steady increase in HIV prevalence (MOH, 2008:ix; 10). Other socio-demographic details are displayed in table 1.

**Table 1:** Socio-demographic details

| Variable                   | f   | %     | Variable               | f   | %     |
|----------------------------|-----|-------|------------------------|-----|-------|
| Residential area:          |     |       | Religion:              |     |       |
| Urban                      | 179 | 52.6% | Christian              | 326 | 95.9% |
| Rural                      | 161 | 47.4% | Islam                  | 2   | 0.6%  |
| Total:                     | 340 | 100%  | Other                  | 12  | 3.5%  |
|                            |     |       | Total:                 | 340 | 100%  |
| Marital status:            |     |       | Employment status:     |     |       |
| Married                    | 126 | 37.0% | Unemployed             | 174 | 51.2% |
| Co-habiting                | 109 | 32.1% | Self employed          | 36  | 10.6% |
| Single                     | 57  | 16.8% | Institution or company | 130 | 38.2% |
| Widow/widower              | 30  | 8.8%  | Total:                 | 340 | 100%  |
| Divorce/separated          | 8   | 2.4%  |                        |     |       |
| Total:                     | 340 | 100%  |                        |     |       |
| Highest educational level: |     |       | Nationality:           |     |       |
| No education               | 25  | 7.4%  | Swazi                  | 334 | 98%   |
| Non-formal education       | 1   | 0.3%  | Non-Swazi              | 6   | 2%    |
| Primary                    | 108 | 31.8% | Total:                 | 340 | 100%  |
| Secondary                  | 192 | 56.5% |                        |     |       |
| Tertiary                   | 13  | 3.8%  |                        |     |       |
| Vocational                 | 1   | 0.3%  |                        |     |       |
| Total:                     | 340 | 100%  |                        |     |       |

### Sexual practices, condom use and HIV disclosure practices among ART patients

#### *Sexual practices*

As many as 86.8% (f=295; N=340) of the respondents had their sexual debuts after the age of 15 and 45.3% (f=154; N=340) hoped to have 3-5 children. The desire to have children means that at some point in time, unprotected sex has to be practiced. Of the sexually active respondents (n=255), 70.2% (f=179) used condoms all the time while only 2% (f=5) used condoms rarely.



Only 45% (f=153) of the respondents (N=340) had permanent sexual partners compared to 31.5% (f=107) who had casual and 23.5% (f=80) who had no partners during the three months preceding the study. Most respondents, 66.2% (f=225) had only one sexual partner; 7.7% (f=26) had 2-5 partners; 0.35 (f=1) had more than five partners while 25.9% (f=88) had abstained at the time of the study. As a method of contraception, 67.3% (f=229) of respondents used condoms; 1.8% (f=6) used oral contraceptives; 3.8% (f=13) used injections; 0.3% (f=1) used surgical contraception and 26.2% (f=89) used no contraceptives.

### ***Condom use***

Of the respondents (N=340), 67.4% (n=229) used condoms, of whom 161 (70.3%) were females and 68 (29.7%) males. Among all females (n=256), 62.9% (f=161) used condoms and among all the males (n=84), 80.9% (f=68) used condoms. Of the respondents who used condoms (n=229), 63.3% (f=145) were aged 25-44 and 16.6% (f=38) were 45 or older; 57.2% (f=131) were from urban settings and 42.8% (f=98) from rural areas. Almost half (46.9%; f=106) were married, 41.9% (f=96) were cohabiting and 10% (f=23) were single. The proportion of condom use was highest among those cohabiting (88.1%; f=96; n=109) and married (84.1%; f=106; n=126) and lowest among widows/widowers (6.7%; f=2; n=28). The latter group also had the highest rate of non-condom use at 93.3% (f=28; n=30). The condom users (n=229) were involved in permanent/steady (57.6%; f=132) and casual (41.1%; f=94) sexual relationships. Most condom users reportedly had single sex partners (86%; f=197; n=229) while condom use was highest among those who had 2-5 sexual partners (96.2%, f=25; n=26). Of the condom users, 66.8% (f=153) knew the HIV status of their partners.

### ***Disclosure***

The disclosure rate was 94.1% (f=320, n=340) with 88.2% (f=209; n=237) of the respondents reporting that their sexual partner(s) knew their HIV positive status. Most of the disclosures, 57.5% (f=184; n=320), were towards spouses or sexual partners with fewest disclosures to religious/spiritual leaders, 0.9% (f=3; n=320). Of those who disclosed their status (n=320), 57.8% did so 1-5 years after the initial diagnosis with the largest portion (35.3%; f=113) falling in the 1- 3 year group.

The five leading motivators for disclosure were: the need for physical and emotional support (95%; f=304; n=320), the belief that non-disclosure was the wrong thing to do (96.2%; f=308; n=320); desperation and no one to turn to (78.1%; f=250; n=320); the need to access HIV treatment and care (95.3%; f=305; n=320); and, concerns about the health of their sexual partners (84.3%; f=270; n=320). The main benefits gained

from disclosure were material support (61%;  $f=158$ ;  $n=259$ ) and counselling/emotional support (11.5%;  $f=30$ ;  $n=259$ ).

The reactions from people, to whom disclosures had been made, were generally positive: caring and supportive (93.4%;  $f=299$ ;  $n=320$ ) and sympathetic (94.3%;  $f=302$ ;  $n=320$ ). These positive reactions corresponded with the personal feelings that followed disclosure among the PLWHA namely: feeling more at peace (93.8%;  $f=300$ ;  $n=320$ ), feeling encouraged to disclose to new future sexual partners (85.3%;  $f=273$ ;  $n=320$ ); and feeling free and unburdened (90%;  $f=288$ ;  $n=320$ ). However, negative experiences included that some respondents experienced stigmatisation (22.6%;  $f=61$ ;  $n=270$ ) and discrimination (16.2%;  $f=44$ ;  $n=270$ ). Among those respondents who had disclosed their HIV status, 46.9% ( $f=150$ ;  $n=320$ ) indicated that, if they could have another opportunity, they would not disclose their HIV status. The leading reasons for non-disclosure included the fear of stigmatisation and discrimination 80% ( $f=16$ ;  $n=20$ ), losing employment/income 75% ( $f=9$ ;  $n=12$ ) and the feeling that the time to disclose their HIV status was not right (90%;  $f=18$ ;  $n=20$ ).

### ***The relationships among sexual practice, condom use and disclosure among ART patients***

The duration of ART was related to the respondents' number of sexual partners. Of those respondents who had used ARVs for 1-3 years, 6.4% ( $f=8$ ;  $n=125$ ) had 2-5 sexual partners compared to 66.4% ( $f=83$ ;  $n=125$ ) who had only one sexual partner. A similar trend was observed among those who had used ARVs for 3-5 years, 3.5% ( $f=3$ ;  $n=86$ ) had 2-5 sexual partners compared to 80.2% ( $f=69$ ;  $n=86$ ) who had only one sexual partner. Longer duration of ART seemed to be associated with fewer sexual partners. A chi-square test confirmed the association between longer duration of ART and smaller number of sexual partners (only 1), at  $X^2=29.379$  ( $p=0.014$ ;  $df=15$ ).

Condom use was influenced by

- gender (male), 81% ( $f=68$ ;  $n=84$ ) at  $X^2=9.383$  ( $p=0.002$ ;  $df=1$ )
- living in an urban area, 73.2% ( $f=131$ ;  $n=179$ ) at  $X^2=5.846$  ( $p=0.016$ ;  $df=1$ )
- being married (84.1%;  $f=106$ ;  $n=126$ ) or co-habiting (88.1% ( $f=96$ ;  $n=109$ )) at  $X^2=132.458$  ( $p=0.000$ ;  $df=5$ )
- type of sexual relationship (casual), 87.9% ( $f=94$ ;  $n=107$ ) at  $X^2=192.535$  ( $p=0.000$ ;  $df=2$ )
- number of sexual partners (2-5 sexual partners), 96.2% ( $f=25$ ;  $n=26$ ) at  $X^2=194.634$  ( $p=0.000$ ;  $df=3$ )
- knowing the HIV status of sexual partner(s), 66.8% ( $f=153$ ;  $n=229$ ) at  $X^2=158.848$  ( $p=0.000$ ;  $df=2$ )

- longer duration of ART (3-5 years), 76.7% (f=66; n=86) at  $X^2=11.07$  (p=0.010; df=5).

Several factors influenced ART patients' HIV status disclosure. Socio-demographic factors that significantly influenced such disclosure included:

- being female (95.7%; f=245; n=320) at  $X^2=3.84$  (p=0.03; df=1);
- religion (Christianity) (94.8%; f=309; n=326) at  $X^2=5.99$  (p=0.016; df=2)
- longer duration of ART (93%; f=80; n=86) at  $X^2=15.919$  (p=0.007; df=5).

However, disclosure of HIV status was not influenced by age at  $X^2=16.92$  (p=0.304; df=9), area of residence (urban or rural) at  $X^2=0.047$  (p=0.828; df=1), marital status at  $X^2=5.99$  (p=0.307; df=5), literacy level at  $X^2=7.714$  (p=0.173; df=5), employment status at  $X^2=0.455$  (p=0.797).

Of those respondents who had disclosed their HIV status, 70% (f=244; n=320) used condoms compared to 25% (f=5; n=20) of those who had not done so, demonstrating that disclosure was more likely among consistent condom users, with  $X^2=17.335$  (p=0.000; df=1). Of those who disclosed, 46.6% (f=149; n=320) were in steady sexual relationships compared to 20% (f=4; n=20) of those who had not disclosed. A significant association was observed between disclosure and type of sexual relationship at  $X^2=9.294$  (p=0.01; df=2). Regarding disclosure and number of sexual partners, 67.5% (f=216; n=320) of those who had disclosed had only one sexual partner compared to 45% (f=9; n=20) of those who had not disclosed (  $X^2=10.088$  (p=0.018; df=3).

## DISCUSSION

### Demographics

The female (75.3%) to male (24.3%) ratio of the respondents does not represent the national ratio of 53% versus 47% (SDHS, 2006-2007:10). However, most respondents were aged 25-39, the age group exhibiting a steady increase in HIV prevalence in Swaziland (MOH, 2008:ix, 10). The respondents were almost homogeneous with regard to religion, nationality and lower to mid-level education, but differed with regard to marital and employment status.

### Sexual practices

The desire of 45% of the respondents to have 3-5 children implied that at some stage these respondents would engage in unprotected sex, necessitating relevant health education

and consistent ART use to decrease the VL as much as possible. Most respondents had regular/permanent sex partners and refrained from casual sex.

### **Condom use**

Only 67.4% of the respondents used condoms. More males than females reportedly used condoms. Within the Swazi male-dominated culture, this was an encouraging finding as well as the finding that 63.3% of those who used condoms were aged 25-44 years, the age group exhibiting a steady increase in HIV prevalence (MOH, 2008:ix; 10). Widows and widowers had the highest rate of non-condom used at 93.3%.

### **Disclosure**

The disclosure rate of 94%, could be attributed to the fact that being on ART could make concealing one's HIV positive status difficult. Only 57.5% of disclosures were made to the respondents' sex partners and only 0.9% disclosed to spiritual/religious leaders. Most respondents (95%) disclosed for reasons of physical and emotional support, and 96.2% felt disclosure was the right thing to do. Both the psychological aspects and the "right thing to do" categories could resort under the domain of the clergy.

Notwithstanding the experience of feeling more at peace (93.8%) and feeling unburdened (90%) after disclosing their HIV status and receiving positive reactions such as caring (93.4%) and sympathy (94.3%) from those disclosed to, non-disclosers harboured fears of stigmatisation and discrimination (80%).

### **Associations among variables**

Several statistically significant associations were established among variables by calculating chi-square values at the  $p=0.05$  level. More males used condoms than females but more females disclosed their HIV status than males. This is most promising in a culture where male dominance dictates sexual practices, mostly intercourse without condoms, and where disclosure might provoke discrimination and stigmatisation. Christians disclosed significantly more often than ART patients belonging to Islam or other religions.

The longer respondents were on ART, the fewer sexual partners they had. Condom use also increased with ART duration as well as the likelihood of disclosure of one's HIV status. Those who disclosed their HIV status were more likely to use condoms consistently and to have one sexual partner.

## CONCLUSION

The fact that respondents were almost homogeneous with regard to religion, nationality and lower to mid-level education as well as the fact that all respondents were registered at a VCT/ART clinic where continuing health education is provided, should be considered when interpreting the study's findings. Thus, the associations among the indicators of sexual practices cannot be generalised to all PLWHA in Swaziland. However, it does imply success of the programme offered at the participating VCT/ART clinic. Longer term ART patients were not inclined towards sexual promiscuity and were likely to disclose their HIV status to their sex partners and to use condoms.

## RECOMMENDATIONS

The participating centre has achieved successes and needs to expand and sustain

- the high disclosure rate among women
- men's willingness towards using condoms
- fighting the spread of HIV infection by encouraging disclosure
- the mutual impact of disclosure, ART, condom use, and stability of sexual relationships

However, the low disclosure towards clergy necessitates the involvement of clergy in such a way that it will be acceptable to clients at the centre.

## LIMITATIONS

The findings cannot be generalised beyond the ART patients who attended the participating clinic in Swaziland.

Respondents might have encountered difficulties to use Likert scales in the questionnaire. Three out of four data collectors were males and the majority of the respondents were females. Thus a degree of gender-power differential might have affected the females' responses.

Only questionnaires were used to collect data. A mixed methods approach with individual in-depth interviews or focus group discussions might have improved the findings of this study.

## REFERENCES

- Andia, I., Kaida, A., Maier, M., Guzman, D., Emenyonu., N, Pepper, L, Bangsberg, R.D., & Hogg, S.R. 2009. Highly active antiretroviral therapy and increased use of contraceptives among

- HIV-positive women during expanding access to antiretroviral therapy in Mbarara, Uganda. *The American Journal of Public Health*, 99(2):340-347.
- Bunnell, R., Opio, A., Musinguzi, J., Kirungi, W., Ekwaru, F., Mishra, V., Hladik, W., Kafuko, J., Madraa, E. & Mermin, J. 2008. HIV transmission risk behavior among HIV-infected adults in Uganda: results of a national representative survey. *AIDS Journal*, 22: 617-624.
- Burns, N., & Grove, S.K. 2005. *Understanding nursing research: conduct, critique and utilization*. 5th edition. St. Louis: W.B. Saunders.
- Castilla, J., Del Romero, J., Hernando, V., Marinovich, B., Garcia, S., & Rodriguez, C. 2005. Effectiveness of highly active antiretroviral therapy in reducing heterosexual transmission of HIV. *The Journal of Acquired Immune Deficiency Syndrome*, 40(1):96-101.
- Central statistical office. 2007. *Swaziland demographic and health survey 2006-07: preliminary report*. Available at: <http://www.nercha.org.sz/swaziland%20Demographic%20and%20Health%20survey%202006%20-%202007.pdf> (accessed on 28 June 2008).
- Chin-Hong, P.V., Deeks, S.G., Liegler, T., Hagos, E., Krone, M.R., Grant, R.M. & Martin, J.N. 2005. High-risk sexual behaviour in adults with genotypically proven antiretroviral-resistant HIV infection. *The Journal of Acquired Immune Deficiency Syndrome*, 40(4):463-471.
- Deribe, K., Woldemichael, K., Wondafrash, M., Haile, A. & Amberbir, A. 2008. Disclosure experience and associated factors among HIV positive men and women: clinical service users in southwest Ethiopia. *Biomed Central Journal of Public Health*, 8:81-90.
- De Vos, A.S., Strydom, H., Fouché, C.B. & Delport, C.S.L. 2006. *Research at grass roots: for the social sciences and human service professions*. 3rd edition. Pretoria: Van Schaik.
- Diabaté, S., Alary, M. & Koffi, K.C. 2008. Short term increase in unsafe sexual behaviour after initiation of HAART in Côte d'Ivoire. *The AIDS Journal*, 22(1):154-156.
- Diamond, C., Richardson, J.L., Milam, J., Stoyanoff, S., McCutchan, J.A., Kemper, C., Larsen, R.A., Hollander, H., Weismuller, P., Bolan, R. and the California Collaborative Trials Group. 2005. Use of and adherence to antiretroviral therapy Is associated with decreased sexual risk behavior in HIV clinic patients. *The Journal of Acquired Immune deficiency syndrome*, 39(2):211-218.
- Eisele, T.P., Mathews, C., Chopra, M., Brown, L., Silvestre, E., Daries, V., & Kendall, C. 2008. High levels of risk behaviour among people living with HIV initiating and waiting to start antiretroviral therapy in Cape Town, South Africa. *The AIDS Behaviour Journal*, 12:570-577.
- Fougelberg, J., Karlström, S., Veriava, Y., Ive, P. & Anderson, R. 2006. Decreased sexual risk behaviour after the diagnosis of HIV and initiation of antiretroviral treatment-a study of patients in Johannesburg. *The Southern African Journal of HIV Medicine*. December:12-15.
- Global fund. 2007 *Global fund ARV fact sheet*. Available at: [http://www1.theglobalfund.org/en/media\\_center/publications/factsheets\\_faq/default.asp\\_40k](http://www1.theglobalfund.org/en/media_center/publications/factsheets_faq/default.asp_40k) (accessed on 15 December 2008).
- Joint United Nations Programme on HIV/AIDS. 2010. *Swaziland: HIV and AIDS estimates (2009)*. Available at: <http://www.unaids.org/en/regionscountries/countries/swaziland/> (accessed on 6 August 2011).
- Joint United Nations Programme on HIV/AIDS . 2007a. *HIV/AIDS epidemic update*. Available at: [http://data.unaids.org/pub/EPIslides/2007/2007\\_epiupdate\\_en.pdf](http://data.unaids.org/pub/EPIslides/2007/2007_epiupdate_en.pdf), (accessed on 22 August 2008).
- Joint United Nations Programme on HIV/AIDS. 2007b. *The greater involvement of people living with HIV (GIPA)*. Available at: [http://data.unaids.org/pub/briefingnote/2007/jc1299\\_policy\\_brief\\_GIPA.pdf](http://data.unaids.org/pub/briefingnote/2007/jc1299_policy_brief_GIPA.pdf) (accessed on 4 July 2008).
- Kabikira, F. 2010. *Knowledge, attitudes and practices of condom use in a time of highly active antiretroviral therapy in a rural area in Uganda*. Unpublished Master's dissertation. Pretoria: University of South Africa.

- Kalichman, S.C. 2005. Book review: Positive prevention; reducing HIV transmission among people living with HIV/AIDS. *The New England Journal of Medicine*, 353(5): 536.
- Lurie, M., Pronyk, P., De Moor, E., Heyer, A., DeBruyn, G., Struthers, H., McIntyre, J., Gray, G., Marinda, E., Klipstein-Grobusch, K., & Martinson, N. 2008. Sexual behaviour and reproductive health among HIV-infected patients in urban and rural South Africa. *The Journal of Acquired Immune Deficiency Syndrome* 47(4):484-493.
- Ministry of Health and Social Welfare. 2008. *11th National HIV sero-surveillance among women attending antenatal care services*. Mbabane.
- Ministry of Health and Social Welfare. 2004. *Signs of hope amidst times of challenge: 9th round of national HIV sero-surveillance among women attending antenatal care services at health facilities in Swaziland*. Mbabane.
- MOHSW – See Ministry of Health and Social Welfare
- NAPWA – National Association of People Living with HIV/AIDS
- National Association of People Living with HIV/AIDS. 2009. *Safe sex*. Available at: <http://www.napwa.org.au/living-with-hiv/defecting-hiv/sex/hiv-prevention/safe-sex> (accessed on 4 June 2009).
- Nachega, J.B., Lehman, D.A., Hlatshwayo, D., Mothopeng, R., Chaisson, R.E. & Karstaedt, A.S. 2005. HIV/AIDS and antiretroviral treatment: knowledge, attitudes, beliefs, and practices in HIV-infected adults in Soweto, South Africa. *The Journal of Acquired Immune deficiency syndrome*, 38(2):196-201.
- Niccolai, L.M., King, E., D'entremont, D. & Pritchett, E.N. 2006. Disclosure of HIV serotatus to sex partners: a new approach to measurement. *Journal of Sexually Transmitted Diseases*, 33(2):102-105.
- Norman, A., Chopra, M., & Kadiyala, S. 2005. *HIV disclosure in South Africa: enabling the gateway to effective response*. IFPRI/RENEWAL. Available at: <http://www.ifpri.org/renewal/pdf/RENEWALSADisclosure.pdf> (accessed on 27 October 2008)
- Parsons, J.T., Schrimshaw, E.W., Bimbi, D.S., Wolitski, R.J., Gómez, C.A., & Halkitis, P.N. 2005. Consistent, inconsistent and non-disclosure to casual sexual partners among HIV sero-positive gay and bi-sexual men. *AIDS Journal*, 19(1): S87-S97.
- Polit, D.F., & Beck, C.T. 2008. *Nursing research: generating and assessing evidence for nursing practice*. 8th edition. Philadelphia: Lippincott Williams & Wilkins.
- Remien, R.H. & Bradley, M. 2007. *How does disclosure affect HIV prevention?* Available at: <http://www.caps.ucsf.edu/pubs/FS/pdf/disclosureFS.pdf> (accessed on 14 July 2007).
- Sarna, A.S. Luchters, S., Kaai, P., Munyao, S., Geibel, K., Shikely, K., Mandaliya, M., Hawken, J. Van Dam, V. & Temmerman, M. 2005. "Does being treated with HAART affect the sexual risk behavior of people living with HIV/AIDS? Insights from Mombasa, Kenya," Available at: <http://www.popcouncil.org/pdfs/horizons/mombsxibhvr.pdf> (accessed on 10 July 2008).
- SDHS – See Swaziland Demographic and Health survey
- Spire, B, De Zoysa, I & Himmich, H. 2008. HIV prevention: what have we learned from community experiences in concentrated epidemics? *The Journal of the International AIDS Society*, 11:5.
- Swaziland Demographic and Health survey (SDHS). 2006-2007. NERCHA. Available at: <http://www.nercha.org.sz/swaziland%20Demographic%20and%20Health%20survey%202006%20-%202007.pdf> (accessed on 12 April 2009).
- The Government of the Kingdom of Swaziland. 2008. *Monitoring the declaration of commitment on HIV/AIDS: Swaziland country report*. UNAIDS/NERCHA. Available at: <http://www.nercha.org.sz/background.html> (accessed on 28 June 2008).

The Government of the Kingdom of Swaziland. 2006. *The second national multisectoral HIV and AIDS strategic plan 2006-2008*. Available at: <http://www.nercha.org/publications/2nd%20NSP%202006-2008%20FINAL.pdf> (accessed on 28 June 2008).

UNAIDS – See Joint United Nations Programme on HIV/AIDS.

UNDP – See United Nations Development Programme.

United Nations Development Programme. 2006. *YOU AND AIDS: Empowerment of people living with HIV/AIDS*. Available at: <http://www.youandaids.org/index.asp> (accessed on 8 December 2006).

USAID. 2010. *Swaziland: HIV/AIDS health profile*. Available at: [www.usaid.gov/our\\_work/global\\_health/aids/Countries/africa/swaziland\\_profile.pdf](http://www.usaid.gov/our_work/global_health/aids/Countries/africa/swaziland_profile.pdf) (accessed on 23 July 2011).

USAID. 2005. *Health profile: Swaziland*. Available at: [http://www.usaid.gov/our\\_work/global\\_health/aids/countries/africa/swaziland\\_05.pdf](http://www.usaid.gov/our_work/global_health/aids/countries/africa/swaziland_05.pdf) (accessed on 28 June 2007).