TRENDS IN YOUTH RISK FOR HIV

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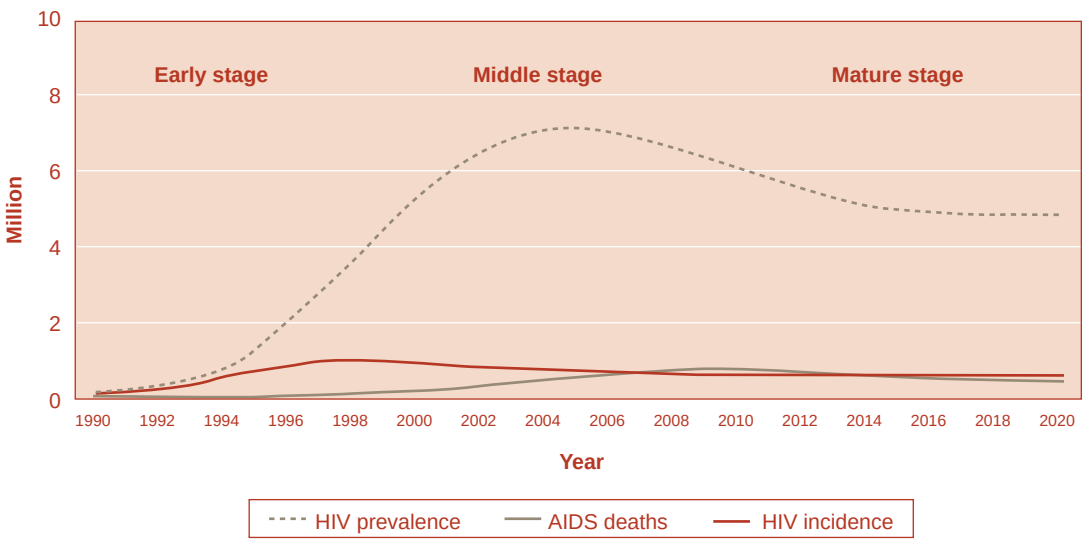
Introduction

South Africa is in the middle of an HIV/AIDS epidemic of profound proportions.[1] For yet to be fully explained reasons, the Southern African region has experienced the greatest impact of the disease in the world to date. Reducing the risk to youth of HIV is critical in slowing down the epidemic and reducing the burden of disease, as young people will continue to fuel the epidemic as newly sexually active cohorts become part of the susceptible pool. The Reproductive Health Research Unit (RHRU) has recently reported on a national survey of young people conducted in 2003,[2] usefully adding to the growing body of empirical data that includes the NM/HSRC national household survey (NM/HSRC),[3] the national youth risk behaviour survey (NYRBS) conducted in 2002,[4] the 1998 South African Demographic and Health Survey (SADHS)[5] and the routine HIV sero-prevalence surveillance system monitoring pregnant women (ANC surveys).[6]

This chapter aims to assess the consistency of these data and to what extent they provide any insight into the changes in risk behaviour of the youth.

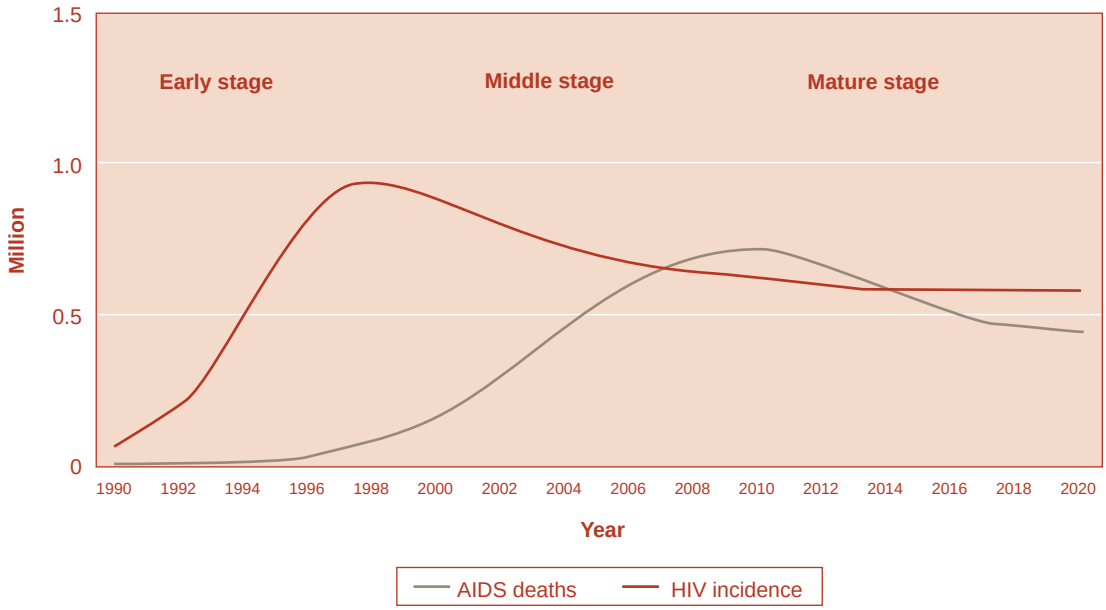
Projections of the HIV/AIDS epidemic show that the natural course of the epidemic is for the prevalence to flatten and possibly fall to a plateau where the number of new cases is counterbalanced by the number of deaths. Using the ASSA2000 demographic and AIDS model for South Africa with a scenario of no behaviour change or treatment intervention,[7, 8] it can be seen (Figure 1) that as a result of the natural course of the epidemic, the rapid increase in prevalence experienced during the 1990s is expected to slow down and to reach its peak in 2004 or 2005. Taking a closer look at the number of new infections (Figure 2), the projection of the natural course of the

Figure 1: Projected HIV prevalence, HIV incidence and AIDS deaths for South Africa, ASSA2000



epidemic shows that the number of new cases peaked around 1998 and has declined since then. Without treatment, the number of AIDS deaths could be expected to continue to increase until about 2010 after which it is expected to plateau.

Figure 2: Projected HIV incidence and AIDS deaths for South Africa, ASSA2000



Data and Analysis

Data sources

Prevalence data were obtained from the antenatal surveillance system established by the national Department of Health (NDoH) in 1990,[9] the NM/HSRC and RHRU surveys. The NDoH collects anonymous samples of blood at sentinel public clinics annually and publishes the results for the provinces. In order to get age-specific estimates of the prevalence, the raw data from 1997 onwards was obtained from the NDoH. The NM/HSRC and RHRU surveys collected saliva samples to measure prevalence of HIV, the latter being focused on youth. Table 1 shows the details of the surveys.

Behavioural data were collected in the NM/HSRC and the RHRU survey as well as the SADHS and the NYRBS. However, it should be noted that they all used different instruments and in the case of the NYRBS, the questionnaire was self-administered.

Trends in prevalence of HIV

When we look at the trend in HIV prevalence among pregnant women under the age of 25 years, although the levels are high, we see what appears to be a hopeful decrease in the prevalence of the 15-19 year age group and a possible slowing down in growth in the prevalence of the 20-24 year age group (Figure 3). The results from the 2003 survey have not yet been released.

Closer inspection shows that the pattern in the prevalence is not consistent across all the provinces. KwaZulu-Natal, Mpumalanga and to some extent Gauteng follow the national pattern for young women 15-19 years of age – while Western Cape, Northern Cape, Eastern Cape and Limpopo were still increasing up till 2002 (Figure 4).

Table 1: Characteristics of national surveys

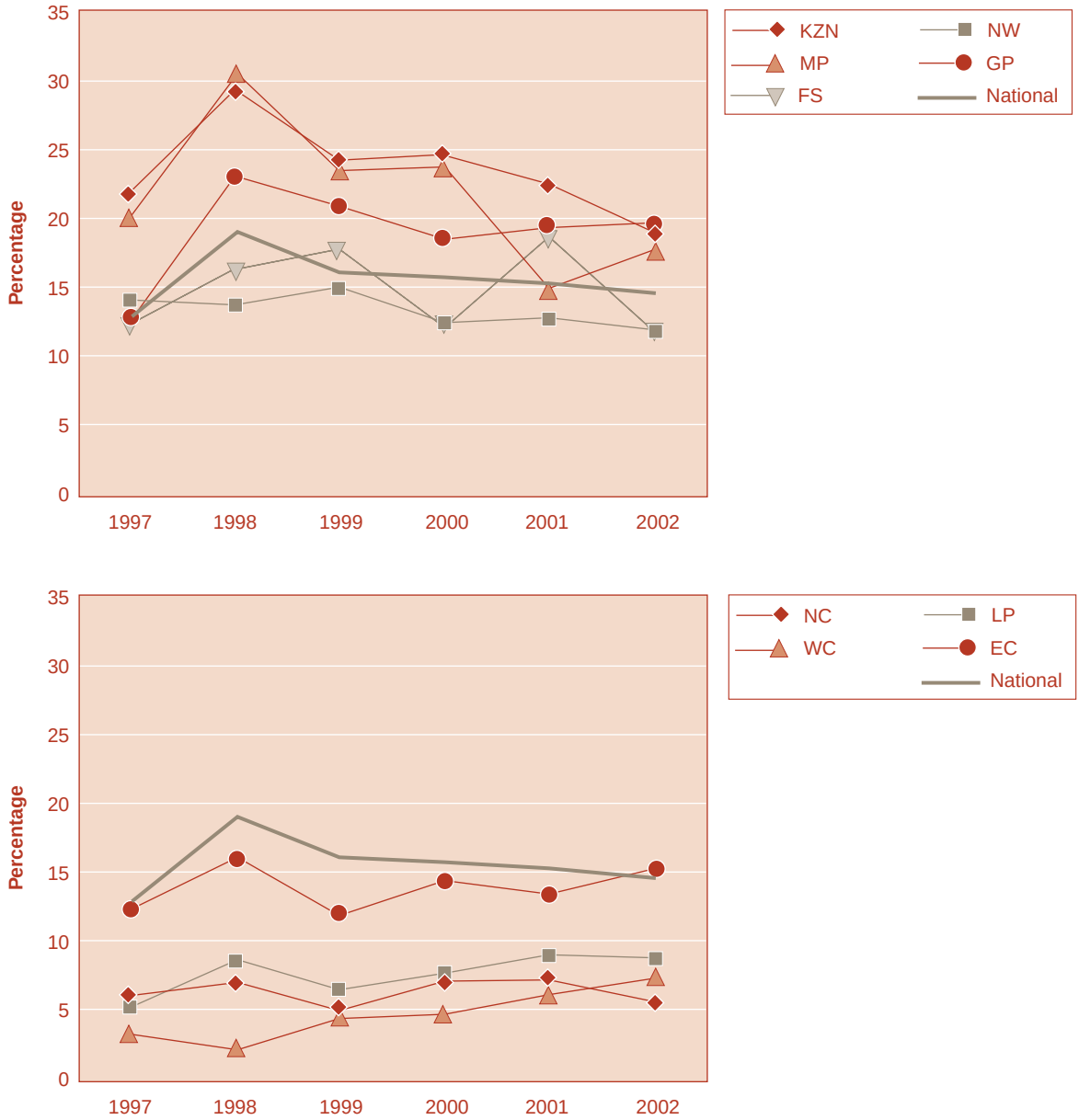
	SADHS 1998	NM/HSRC 2002	NYRBS 2002	RHRU 2003
Survey type	Household Women 15-49	Household Children 2-4, Youth 15-24 and Adult 25+	School attendees Grade 8 - 11 Self administered	Household Youth 15-24
Respondents compared	4 374 Women 15-24	2 099 Youth 15-24	10 699 Youth 13-19+	11 904 Youth 15-24
Response rate[i]	93% x 90%	71.1% x 93.6% x 60.7%	91.3% x 72.5%	88.3% x 77.2%
Overall response rate	91%	40.4%	66.1%	68.2%
Content	Sexual behaviour	Orasure (HIV) Sexual behaviour Mass media	Sexual behaviour Other risk behaviours	Orasure (HIV) Sexual behaviour

Note: i The response rate for each stage of the sampling.

Figure 3: HIV prevalence among public sector ANC attendees under 25 years, 1991-2002

Source: Antenatal seroprevalence surveys, NDoH

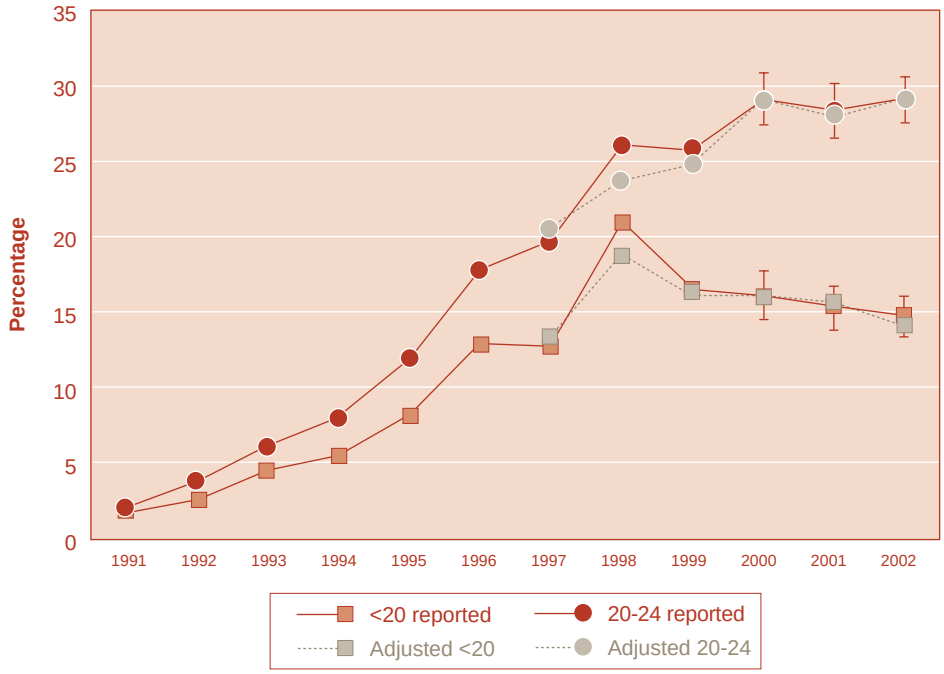
Figure 4: HIV prevalence (antenatal attendees <20 years) by province, according to pattern



Source: Antenatal seroprevalence surveys, NDoH

The decreasing trend is accentuated by the very high values in 1998 observed in all age groups, but particularly among the 15-19 year olds, warranting further examination of the data. When the HIV prevalence for the young women is recalculated by combining the provincial estimates weighted by the estimated number of births in each province in that age group, the 'blip' in 1998 is somewhat ameliorated in the 20-24 year age group but remains apparent in the 15-19 year age group as can be seen in Figure 5, comparing the reported values with the adjusted values.

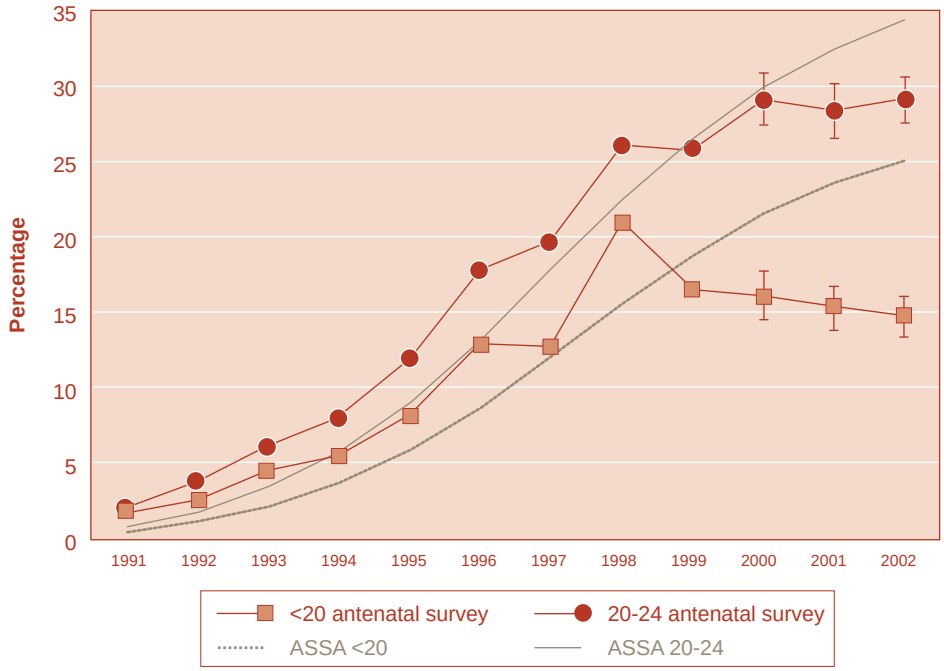
Figure 5: HIV prevalence (antenatal attendees), reported and adjusted estimates



Source: Calculated from antenatal seroprevalence surveys, NDoH

Thus the data show a clear slowing down in the 20-24 age group and a clear decline in the 15-19 age group. Comparing the survey results with projections from ASSA2000 with the no change scenario suggests that the observed prevalences fell below the projection from 2000 onwards (Figure 6). The big questions are whether this trend will be sustained and whether there is corroboration from the other data sets that have been collected.

Figure 6: Comparison of ANC survey results and model projections for women <25 years



Source: Antenatal seroprevalence surveys, NDoH

The NM/HSRC survey in 2002 and the RHRU survey in 2003 included HIV prevalence from nationally representative samples of youth. However, these data give no indication of a trend as there is an overlap of confidence intervals between the two surveys (Figure 7). However, they do show that the prevalence among women is higher than among men and higher in the 20-24 year age group than the 15-19 year age group. Comparison of population based survey estimates with ANC data is complicated by the fact that pregnant women attending public sector clinics are a select group. However, there do not appear to be any major anomalies in HIV prevalence at the national level. A study conducted in Zimbabwe suggests that the ANC estimates could be expected to be about 1.5 to 2 times higher than the population based estimate for women.[10]

From Figure 7, it can be seen that in both population based surveys the prevalence among young women is higher than among young men. However, the difference is greater in the RHRU survey and is in keeping with the difference projected by the ASSA model estimates. There is a marked rise in the prevalence between the two age groups. While the surveys were conducted one year apart, there is overlap of the confidence intervals. Together they suggest that about 15% of young women and 5% of young men aged 15-24 years are infected.

The provincial trends in prevalence differ between the NM/HSRC and RHRU surveys but the confidence intervals around the estimates overlap for each province, implying that they do not differ significantly. Figure 8 shows the provinces ranked from highest to lowest HIV prevalence according to the ANC results for women aged 15-24 in the 2002 ANC survey. The population based survey results include young men and are, as might be expected, lower than the ANC results. The RHRU results are more consistent with the provincial rankings of the ANC survey. Particular anomalies are the NM/HSRC provincial estimates for Western Cape and Northern Cape, which appear to be high compared to the others, and the NM/HSRC estimate for KwaZulu-Natal, which appears to be low compared to the others.

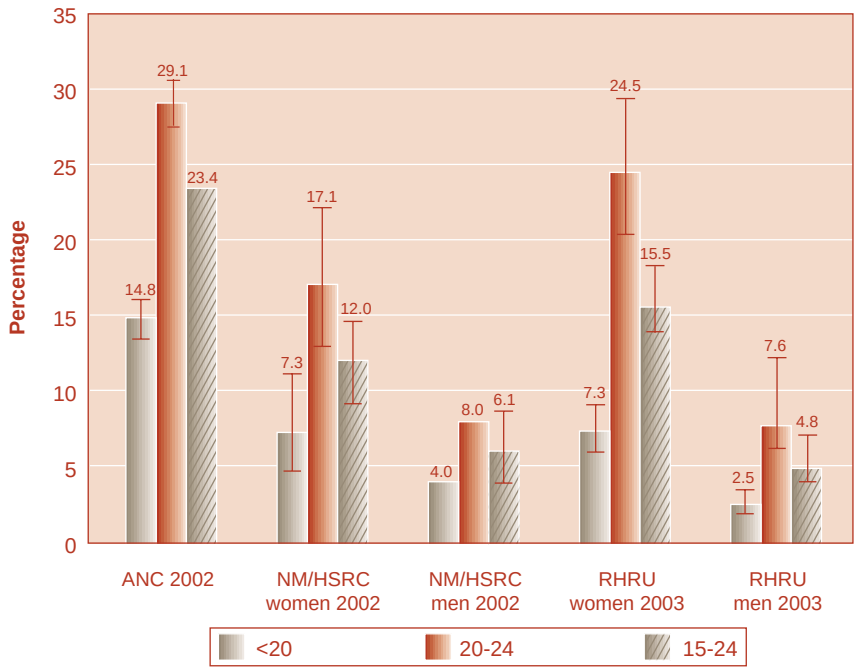
Trends in sexual behaviour

The ANC data suggest that there has been some slowing down in the spread of the epidemic among the youth. Is there any behavioural data that is consistent with this change? The RHRU 2003 survey, the NYRBS 2002 and the NM/HSRC 2002 survey have collected extensive behavioural data, but there is only limited comparative data from the 1998 SADHS for women. Selected indicators are therefore used to assess whether there are possible changes in behaviour that would be consistent with a slowing down of the spread among the youth.

Sexual debut

When compared with the 1998 SADHS, the NM/HSRC results of 2002 suggested that there was possibly a reduction in the age of sexual debut (Table 2). However, the RHRU survey found a higher age of sexual debut which suggests that there probably has not been any change. Similarly, the percentage of young

Figure 7: Comparison of HIV prevalence surveys by age group



women aged 15-19 who had had sex before the age of 14 appears higher in the RHRU survey than the NM/HSRC, but similar for girls in the SADHS, again suggesting that there may not have been any change in sexual debut for women. Not all the data needed to examine this properly are available at this stage. More careful consideration is needed to assess the impact of different methodologies and potential bias.

Figure 8: HIV prevalence among youth aged 15-24 by province

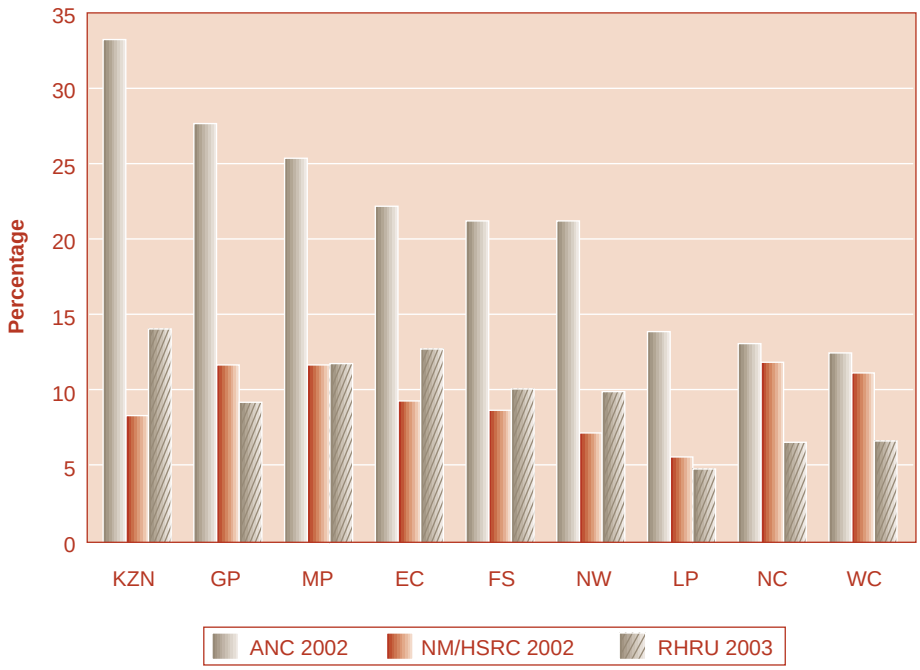


Table 2: Comparison of the percentage of youth who have ever had sex, % [95% CI]

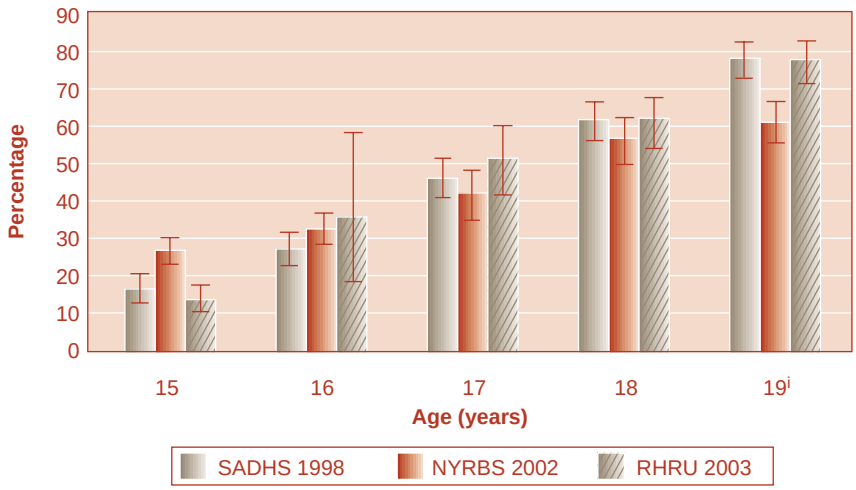
	SADHS 1998	NM/HSRC 2002	NYRBS 2002[i]	RHRU 2003
Ever had sex females				
15-19	45.2 [43.4 - 47.7]	*	34.1 [31.1 - 37.1]	47 [41 - 52]
20-24	89.4 [87.7 - 91.1]	*	-	91 [89 - 92]
15-24	66.3 [64.3 - 64.3]	57.9	-	68 [65 - 71]
Ever had sex males				
15-19	-	*	50.1 [47 - 53.2]	50 [47 - 53]
15-24	-	55.6	-	67 [65 - 69]
First sex at <15 years[ii]				
Males	-	*	25.3 [22.7 - 27.8][iii]	13
Females	8.5%	*	6.0 [4.2 - 7.8][iii]	7

Notes: i Data based on learners age 15-19, published report includes some respondents outside this range.
ii Of youth aged 15-19 years who have ever had sex.
iii First sex at ‹1 4 years.
- Data not collected in survey.
** Data not publicly available*

Figure 9 shows the percentage of young women under 20 who have ever had sex by age. The estimates from the NM/HSRC survey cannot be compared as they are not available by single age in the report. The percentage increases consistently with age – with very similar percentages for the 1998 SADHS and RHRU survey in 2003. There is an unusually high percentage of 15 year olds in the NYRBS 2002 which may be a result of the data collection being self administered. The 19 year old group is also unusually low. This age group includes women older than 19 and the women of this age who are still at school may be a select group in terms of sexual behaviour.

Teenage pregnancy, a tangible outcome of sexual activity, also shows no change between the 1998 SADHS and the 2003 RHRU survey (Figure 10). The slight decrease observed in the youngest ages is not significant. However, the percentage of women aged 15-19 who reported they had been pregnant was lower in the NYRBS. A further indication of little change in teenage pregnancy comes from the age pattern from the ANC data. There has been no change in either the percentage of the sample falling in the 15-19 age group or in the median age of the youngest age group between 1997 and 2002.

Figure 9: The percentage of women aged 15-19 who have ever had sex



Note: i Data for NYRBS for age 19 or older.

Figure 10: The percentage of women aged 15-19 who have ever been pregnant

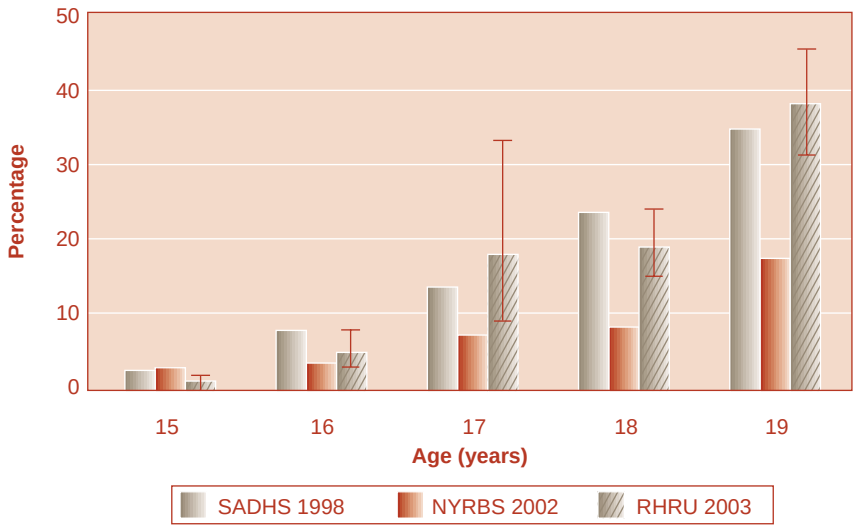


Table 3: Comparison of the percentage of youth aged 15-24 years using condoms, % [95% CI]

Condom use	SADHS 1998	NM/HSRC 2002	NYRBS 2002	RHRU 2003
At last sex (15-24)				
Males		57.1	-	57 [49 - 64]
Females	16.6	46.1	-	48 [45 - 51]
Always use condom				
15-19	-	*	28.8 [26 - 32]	30 [28 - 33]

Notes: - *Data not collected in survey*
* *Data not publicly available*

Condom use

While there does not appear to have been any delay in the age of sexual debut, the survey data do suggest that there have been some changes in sexual practice. From Table 3 there does appear to have been an increase in the use of protection during sex, albeit a comparison restricted to women. However, this trend is supported by the wide distribution of condoms through the NDoH, which has reached levels of over 300 million per year by 2003 from levels of 120 million in 1997 and 150 million in 1998.[a]

Multiple partners

The number of sexual partners reported in the last 12 months (Table 4) is difficult to interpret. While it may reflect increasing proportions of women who had multiple partners, it may represent underestimation in the SADHS and NM/HSRC surveys. More careful assessment of this in conjunction with other variable would be needed to assess this.

Table 4: Comparison of the percentage of women aged 15-24 years by number of sexual partners

No. of partners in last 12 months	SADHS 1998	NM/HSRC 2002	RHRU 2003
Age 15-19 years			
0 partners	59.7	70.3	57.9
1 partner	36.7	26.9	35.8
2+ partners	2.9	2.8	6.2
Age 20-24 years			
0 partners	17.8	31.5	22.8
1 partner	76.9	63.5	69.0
2+ partners	3.5	5.0	8.0

Youth risk for HIV and other sexually transmitted infections (STIs)

The recent RHRU survey highlights many challenges for prevention programmes. One in 10 young people is currently infected with HIV, a disturbingly high proportion. Seventy-seven percent of these are women. Nearly 1 in 4 women age 20-24 years is infected with HIV compared to roughly 1 in 14 of males of the same age.

In order to replicated the observed differences in prevalence of HIV between men and women in many countries, modellers have all assumed that the probability of heterosexual transmission of HIV from a man to a woman is higher than the other way round due to biological reasons, even although the empirical evidence of this is mixed. The RHRU survey shows that young women are also at higher risk for HIV infection than men. Compared to their male counterparts, sexually active young women are significantly less likely to report having used a condom at last sex or to report always using a condom. Sexually active women age 20-24 years are less likely to report using condoms at last sex compared to males the same age (43% vs 57%). Among sexually active youth aged 15-19 years, women are significantly less likely to report always using condoms compared to men (26% vs 45%). In addition, young women report having more sex than their male counterparts, putting them at greater risk for exposure to HIV infection. Sexually active young women are more likely to report having sex in the last 12 months compared to young men, especially among those aged 15-19 years. The survey found that 73% of sexually active young men compared with 90% of sexually active young women report having had sex in the last 12 months. A greater percentage of young sexually active women reported having symptoms of STIs compared with young men (19% compared to 9%), also placing women at higher risk of acquiring HIV.

Youth living in urban informal and rural formal areas, accounting for 14% of all young people, have very high HIV prevalence levels

a John Wilson, Logistics Advisor with Department of Health, personal communication.

(17.6% and 13.4%, respectively). Youth living in these areas reported having had sex more than youth in other areas and the sexually active youth living in rural formal areas report the lowest condom usage of all four geo-types; 35% reported using a condom at last sex and only 12% reported using condoms consistently. Furthermore, the youth living in these areas reported the lowest awareness of and exposure to HIV prevention campaigns. It is clear that prevention programmes need to find ways that their interventions can impact these young people. While the contextual factors influencing the high HIV risk may take some time to be addressed, the information needs of youth living in these areas need to be addressed urgently.

The RHRU survey shows that HIV prevention awareness among the youth tends to be relatively one dimensional, focused mainly on condom use. A very high percentage of youth (93%), reported that they were aware of something that could be done to prevent HIV infection but when asked what could be done, the vast majority only identified using condoms when having sex. Far fewer reported being faithful to one partner or to not have many partners. Likewise, of the 63% of youth who reported that they have changed their behaviour because of HIV/AIDS, the majority reported that they used condoms and fewer reported that they reduced partner numbers.

In order for condoms to be effective against HIV infection they must be used consistently and correctly. Young people are aware of this and reported that they are confident that they can use condoms at all the time. However, their actual behaviour does not reflect this, with 67% of sexually active youth not using condoms consistently and 31% of sexually active youth reporting that they never use a condom, reflecting a clear information gap around the use of condoms. The survey revealed that almost a third of youth still hold the misconception that using a condom means that you do not trust your sexual partner.

Young people report HIV/AIDS to be the biggest problem facing them and their communities and 45% of young people report that they personally know someone who has died of AIDS. However, the majority of young people do not consider that they are personally at risk for contracting HIV. In fact, 63% of HIV infected youth (73% of HIV negative youth) reported that they thought they were at no risk at all, or a small risk, of getting HIV. It is likely that if youth do not think they are at risk for HIV infection, they do not feel the need to protect themselves. Young people reported that alcohol and drug abuse was the second largest concern after HIV/AIDS. This is also a matter of concern in terms of HIV/AIDS, as alcohol and drug use impair good judgment, reduce inhibitions and increase risk behaviour. Among youth who had tried alcohol, 24% report that they have had sex under the influence. Youth were also not very confident that they would be able to use a condom if they had been drinking or taking drugs.

Conclusion

The national data confirm the high prevalence of HIV among South African youth, particularly young women. The data from the ANC surveys show possible signs of a slowing down of the epidemic with a decline in the prevalence among the 15-19 age group. This must be interpreted cautiously as this group represents relatively few of the young women in this age group. The survey data show some clear behavioural responses to the epidemic, particularly increased condom use. However, the current decreases in HIV are not sufficient to have the marked impact on the epidemic in order to reduce the spread of the epidemic or the substantial burden. Unambiguous political direction and effective prevention interventions are needed to ensure that progress in slowing the epidemic reaches a tipping point. With such high rates of HIV and pregnancy among young women, access to antiretrovirals for prevention of mother-to-child transmission and for treatment is essential.

National survey and surveillance data are extremely important in building an understanding of the current levels of HIV and behaviour patterns nationally. Surveys are costly and every effort needs to be made to ensure good response rates and validity and reliability of the questionnaires. The data from such surveys need to be made available to researchers so that they may thoroughly interrogate it and so that the data can be most effectively used to inform programmes and policy.

Despite the high prevalence of HIV infection, unemployment and crime in the country, the RHRU survey shows that South African youth are very optimistic about their futures. The majority of youth (69%) report feeling in control of their lives and 94% say they know what they want out of life. Youth report having goals for the future (92%), knowing where they are headed in the future (82%) and they believe it is worth planning for the future because they feel they have many opportunities. Further, young people do report that they are trying to change their behaviour in response to the HIV epidemic; 63% of youth reported changing their behaviour in response to HIV/AIDS. Interventional efforts need to build on these positive attitudes. However, the RHRU survey has identified that young people need to better understand that:

1) they are at risk for HIV infection
2) condoms are only effective when used consistently, and
3) reducing partner numbers is an important part of reducing HIV risk.

Acknowledgments

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