

Primary care

National cross sectional study of views on sexual violence and risk of HIV infection and AIDS among South African school pupils

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Abstract

Objective To investigate the views of school pupils on sexual violence and on the risk of HIV infection and AIDS and their experiences of sexual violence.

Design National cross sectional study.

Setting 5162 classes in 1418 South African schools.

Participants 269 705 school pupils aged 10-19 years in grades 6-11.

Main outcome measure Answers to questions about sexual violence and about the risk of HIV infection and AIDS.

Results Misconceptions about sexual violence were common among both sexes, but more females held views that would put them at high risk of HIV infection. One third of the respondents thought they might be HIV positive. This was associated with misconceptions about sexual violence and about the risk of HIV infection and AIDS. Around 11% of males and 4% of females claimed to have forced someone else to have sex; 66% of these males and 71% of these females had themselves been forced to have sex. A history of forced sex was a powerful determinant of views on sexual violence and risk of HIV infection.

Conclusions The views of South African youth on sexual violence and on the risk of HIV infection and AIDS were compatible with acceptance of sexual coercion and "adaptive" attitudes to survival in a violent society. Views differed little between the sexes.

Introduction

In South Africa sexual violence is probably exacerbated by the country's violent past. The endemic violence is now highly sexualised and is aimed at the most vulnerable members of society.^{1 2} HIV infection and AIDS have spread widely as a result of unprotected and forced sex.^{3 4}

The consequences of sexual abuse during childhood are well recognised as is the link between sexual violence and HIV infection.⁵⁻⁹ In South Africa, several studies in youth have shown that they are affected by sexual violence, that there is a high prevalence of misconceptions about sexual violence and about the risk of HIV infection and AIDS, and that responses to communication about behaviour change may be less positive than expected.¹⁰⁻¹⁸ We investigated the views of South African school pupils towards sexual violence and towards the risk of HIV infection and AIDS.

Methods

We based our sample on the South African 2001 census, stratifying the enumeration areas of each province into metropolitan or capital, urban, or rural. We randomly drew sentinel enumeration areas proportional to the population in each stratum, and we matched schools to each enumeration area from a list of registered schools provided by the provincial education authorities. Over-sampling in three provinces, the result of additional funding, was weighted to derive national indicators (see bmj.com).

All nine provincial departments of education gave permission to administer a questionnaire within their curriculum. The researcher in each classroom explained to the pupils that the questionnaire was voluntary, that they could stop at any time, and that answers would be anonymous. The classrooms were arranged for privacy.

Our questionnaire elicited views on, and experiences of, forced sex and was provided in nine languages: English, Sesotho, Sepedi, Setswana, Setsonga, Tshivenda, IsiZulu, IsiXhosa, and Afrikaans. We used the term "forced sex without consent," as the equivalent word for "rape" does not exist in some languages.

With teachers absent, the researchers—mostly young female fieldworkers—read each question in the languages requested.

Views on sexual abuse included: a person has to have sex to show love; sexual violence does not include touching; sexual violence does not include forcing sex with someone you know; girls have no right to refuse sex with their boyfriends; girls mean yes when they say no; girls like sexually violent guys; girls who are raped ask for it; and girls enjoy being raped. We used three or more of these eight beliefs as a summary measure of misconceptions about sexual violence. We defined views that would put someone at high risk of HIV infection as believing that sex with a virgin can cure HIV infection or AIDS, believing that condoms cannot protect against HIV, having no intention of going for an HIV test, having no intention of telling the family if HIV positive, and intending to spread HIV if positive. We analysed risk with the Mantel-Haenszel test.^{19 20}

Results

Between September and November 2002 we invited 5162 classes in 1418 South African schools to take part in our study. Overall, 283 576 youth agreed to participate. Their ages ranged from 10 to 22 years. We excluded those over 20 years of age, leaving



Weighting factors are on bmj.com

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Table 1 Beliefs and views among South African youth on sexual violence. Values in brackets are weighted by province or metropolitan, urban, or rural area. Values are numbers (percentages) of respondents

Belief	10-14 year olds		15-19 year olds		Weighted national estimate	Missing data†
	Males (n=54 483)	Females (n=71 049)	Males (n=72 213)	Females (n=71 175)		
Person has to have sex with boyfriend or girlfriend to show that they love them	22 341 (34.1)	16 182 (17.2)	37 509 (43.5)	16 619 (17.6)	92 651 (28.3)	998 (0.3)
Sexual violence does not include unwanted touching	30 922 (55.4)	41 646 (55.9)	38 991 (47.8)	38 834 (47.3)	150 394 (51.4)	3770 (1.4)
Sexual violence does not include forcing sex with someone you know	34 877 (60.8)	46 624 (62.0)	44 130 (55.2)	43 992 (53.7)	169 623 (58.1)	2806 (1.0)
Girls do not have right to refuse sex with their boyfriend	17 518 (33.1)	23 381 (34.3)	23 680 (28.4)	20 866 (26.6)	85 445 (30.0)	1951 (0.7)
Girls mean yes when they say no	29 273 (51.9)	35 140 (46.6)	43 340 (56.0)	35 459 (43.2)	143 212 (48.5)	1763 (0.65)
Girls like sexually violent guys	12 501 (22.2)	8996 (10.8)	20 721 (27.3)	8235 (9.2)	50 453 (17.2)	2717 (1.0)
Girls who are raped ask for it	6252 (12.4)	5112 (8.3)	11 157 (15.1)	5635 (7.7)	28 156 (10.6)	3112 (1.2)
Girls enjoy rape	16 759 (27.7)	21 651 (27.4)	23 955 (28.9)	18 709 (21.1)	81 074 (26.4)	1283 (0.5)

*Includes respondents who were unsure.

†Percentage who did not respond or who responded with both yes and no.

269 705 participants (average age 14.8 years). The questionnaire was returned by all participants. The non-response rate to individual questions was between 0% and 4.3% (tables 1-3).

Table 2 Misconceptions among South African youth about sexual violence and about risk of HIV infection. Percentages in brackets are unweighted

Characteristic	Have more than two views on sexual violence	Would not have HIV test*	Believe that condoms cannot protect against HIV†
Residential area			
Urban or metropolitan	38 251/110 786 (34.5)	42 010/109 379 (38.4)	46 579/110 084 (42.3)
Rural	81 640/158 919 (51.4)	71 255/156 852 (45.4)	61 579/157 711 (39.0)
Age of respondents (years)			
10-14	53 588/125 532 (42.7)	52 524/123 937 (42.4)	52 612/124 612 (42.2)
15-19	65 866/143 388 (46.0)	60 404/141 557 (42.7)	55 212/142 428 (38.8)
Sex of respondents			
Male	67 107/127 097 (52.8)	53 029/125 364 (42.3)	44 400/126 226 (35.2)
Female	52 784/142 608 (37.0)	60 236/140 867 (42.8)	63 758/141 569 (45.0)
Endured forced sex in past year			
Yes	16 462/27 118 (61.0)	12 302/26 748 (46.0)	10 112/26 847 (37.7)
No	103 429/242 587 (42.6)	100 963/239 483 (42.2)	98 046/240 948 (40.7)
Believe infected with HIV			
Yes	44 887/88 932 (50.5)	37 407/87 765 (42.6)	34 938/88 285 (39.6)
No	74 513/179 690 (41.5)	75 491/177 620 (42.5)	72 807/178 521 (40.8)
Source of education on risk of HIV infection			
Family:			
Yes	48 233/123 659 (39.0)	46 605/122 051 (38.2)	45 652/122 983 (37.1)
No	68 880/140 483 (49.0)	64 274/138 870 (46.3)	60 319/139 586 (43.2)
Love life:			
Yes	70 716/168 044 (42.1)	66 825/166 043 (40.2)	61 820/167 142 (37.0)
No	46 230/95 855 (48.2)	43 895/94 673 (46.4)	43 944/95 179 (46.2)
Soul City:			
Yes	76 758/183 299 (41.9)	73 126/181 260 (40.3)	68 531/182 379 (37.6)
No	39 133/78 895 (49.6)	36 922/77 843 (47.4)	36 681/78 318 (46.8)
Youth group:			
Yes	55 532/131 072 (42.4)	51 595/129 450 (39.9)	47 933/130 386 (36.8)
No	60 265/130 574 (46.2)	58 192/129 103 (45.1)	57 061/129 770 (44.0)
Church:			
Yes	33 544/77 340 (43.4)	30 228/76 256 (39.6)	30 253/76 873 (39.4)
No	81 565/182 714 (44.6)	78 905/180 774 (43.6)	74 215/181 751 (40.8)
Class:			
Yes	75 323/185 517 (40.6)	72 359/183 407 (39.5)	71 007/184 615 (38.5)
No	40 369/76 349 (52.9)	37 450/75 413 (49.7)	34 034/75 749 (44.9)

*3474 non-responders.

†1910 non-responders.

Males were more likely than females to have misconceptions about sexual violence (table 1). The younger respondents (10-14 years) were more likely than the older ones (15-19 years) to believe that sexual violence does not include touching, that if you know someone, forcing sex is not sexual violence, and that girls have no right to refuse sex with their boyfriend. Respondents who were male or lived in a rural area were more likely to express three or more of the eight views (table 2).

Knowledge, views, and beliefs about risk of HIV infection

Condoms

Overall, 57.1% (weighted value based on 147 416/258 080) of respondents stated that condoms could prevent pregnancy, 49.8% (weighted value based on 131 021/262 977) that they can prevent sexually transmitted diseases, and 59.6% (weighted value based on 159 637/267 795) that they can help prevent HIV infection. In urban areas, younger females were significantly less likely than older females to believe that condoms could prevent the spread of HIV infection and AIDS (odds ratio 0.71, 95% confidence interval 0.70 to 0.73; 16 904/32 123 *v* 144 643/237 582).

HIV test

Around 60% of respondents intended to have an HIV test. A gradient was seen between rural and urban or metropolitan and capital areas, with little difference between ages or sex (table 2).

Talking about sex

In total, 34.0% (weighted value based on 108 284/269 705) of respondents reported that they never spoke to anyone about sex. When they did report having talked to someone it was associated with the intention of being tested for HIV (odds ratio 1.34, 95% confidence interval 1.32 to 1.37); of those who intended to have a test, 60.9% (98 318/161 421) had someone to talk to and 53.7% (58 122/108 284) did not have someone to talk to. Overall, 15.7% (19 720/124 120) of males and 14.4% (20 303/141 184) of females said they would not tell their family if they were HIV positive (table 3).

High risk behaviour

Overall, 15.8% (42 658/269 704) of respondents said they would have unprotected sex and 15.7% (weighted value based on 41 904/266 903) said they would spread the infection intentionally. These views were expressed most by older (15-19 years) males from rural areas (table 3).

Table 3 Misconceptions among South African youth about risk of HIV infection. Values are numbers (percentages; unweighted)

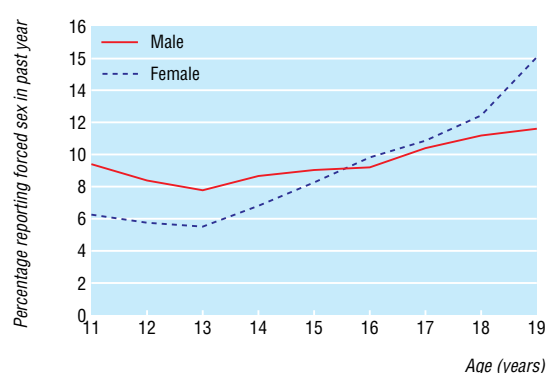
Variable	Would not tell family if HIV positive	Would spread HIV if positive	Believe that sex with a virgin can cure HIV infection or AIDS
Residential area			
Urban or metropolitan	14 087/109 781 (12.8)	13 253/110 786 (12.0)	11 383/110 786 (10.3)
Rural	25 936/157 092 (16.5)	28 651/158 919 (18.0)	22 631/158 919 (14.2)
Age (years) of respondents			
10-14	17 084/124 120 (13.8)	16 431/125 532 (13.1)	18 536/143 388 (12.9)
15-19	22 770/142 015 (16.0)	25 322/143 388 (17.7)	15 353/125 532 (12.2)
Sex of respondents			
Male	19 720/125 689 (15.7)	21 446/127 097 (16.9)	17 765/127 097 (14.0)
Female	20 303/141 184 (14.4)	20 458/142 608 (14.3)	16 249/142 608 (11.4)
Had forced sex in past year			
Yes	5437/26 817 (20.3)	7069/27 118 (26.0)	5438/27 118 (20.1)
No	34 586/240 056 (14.4)	34 835/242 587 (14.4)	28 576/242 587 (11.8)
Believe infected with HIV			
Yes	13 433/88 103 (15.2)	18 055/88 932 (20.3)	14 260/88 932 (16.0)
No	26 384/177 928 (14.8)	23 665/179 690 (13.2)	19 609/179 690 (10.9)
Source of education on risk of HIV infection			
Family:			
Yes	14 040/122 736 (11.4)	18 993/123 659 (15.4)	15 566/123 659 (12.6)
No	24 975/139 080 (18.0)	21 993/140 483 (15.7)	17 613/140 483 (12.5)
Love life:			
Yes	21 270/166 844 (12.7)	27 640/168 044 (16.4)	21 500/168 044 (12.8)
No	17 682/94 776 (18.7)	13 359/95 855 (13.9)	11 675/95 855 (12.2)
Soul City:			
Yes	22 576/182 079 (12.4)	28 974/183 299 (15.8)	22 840/183 299 (12.5)
No	15 883/77 952 (20.4)	11 712/78 895 (14.8)	9917/78 895 (12.6)
Youth group:			
Yes	16 878/130 132 (13.0)	22 260/131 072 (17.0)	17 125/131 072 (13.1)
No	21 659/129 330 (16.7)	18 391/130 574 (14.1)	15 639/130 574 (12.0)
Church:			
Yes	10 409/76 682 (13.6)	13 494/77 340 (17.4)	10 476/77 340 (13.5)
No	27 791/181 291 (15.3)	26 837/182 714 (14.7)	22 041/182 714 (12.1)
Class:			
Yes	23 604/184 267 (12.8)	28 081/185 517 (15.1)	22 142/185 517 (11.9)
No	14 800/75 479 (19.6)	12 508/76 349 (16.4)	10 566/76 349 (13.8)
Missing data	2830/269 705 (1.0)	2801/269 705 (1.0)	2795/269 705 (1.0)

Virgin myth

The belief that sex with a virgin could cure HIV infection or AIDS was reported by 12.7% (34 014/266 910) of respondents and was more common in youth from rural areas (table 3). Those respondents who had learnt from school about the risk of HIV infection were significantly less likely to believe this myth (odds ratio 0.84, 0.82 to 0.87). This protective effect remained after taking into account other sources of information on HIV, age, sex, and history of sexual abuse.

Links between sexual violence and risk of HIV infection

Overall, 8.6% (weighted value based on 27 118/269 705) of respondents said they had been forced to have sex in the past year. Younger males were more likely to report this than younger



Proportion of children who had been forced to have sex in year before survey (percentages weighted by province)

females (figure). In the older age group, more females than males reported having been forced to have sex in the past year.

Respondents of either sex who had been abused in the past year were more likely to have misconceptions about sexual violence and about the risk of HIV infection and AIDS (table 2). Sexually abused youth were more likely to believe they were HIV positive (odds ratio 1.90, 1.85 to 1.92; 43.0% (36 235/84 321) who reported sexual abuse *v* 28.6% (52 237/182 921) who did not report sexual abuse). Respondents who had been sexually abused in the past year were more likely to have no intention of taking an HIV test, more likely to say they would not inform their family if they were HIV positive, and more likely to believe that sex with a virgin could cure HIV infection or AIDS (tables 2 and 3). Youth who had been forced to have sex were more likely to say that they would intentionally spread HIV (odds ratio 2.39, 2.34 to 2.44; table 4). This attitude did not differ between the sexes.

Overall, 33.0% (weighted value based on 88 932/268 622) of respondents thought that they were HIV positive. This response was more common in youth from rural areas. Those respondents who had never had sex (25.8%; 34 987/135 708) still feared they might be HIV positive. They were also more likely to say they would spread the infection if they were HIV positive and were more likely to believe the myth about virgins (table 3).

Attitudes associated with sexual abuse perpetrated by youth

No less than 65.8% (9159/13911) of males and 71.2% (4428/6216) of females who admitted to forcing someone else to have sex had themselves been forced to have sex. The influence of forced sex was especially pronounced on females (odds ratio 7.0, 6.7 to 7.4; table 4). Perpetrators were also twice as likely to believe that sex with a virgin could cure HIV infection or AIDS (odds ratio 2.13, 2.07 to 2.20; 22.6% (4988/22 114 *v* 12% (30 705/255 771)). This association could not be explained by age, sex, school grade, urban or rural area, type of school, language, attitudes to sexual violence, and other attitudes to risk of HIV infection.

We found an association between misconceptions about sexual violence (one has to have sex to show love, girls like violent guys, girls enjoy being raped, girls mean yes when they say no) and the claim to have forced someone else to have sex.

Discussion

South African school pupils seem to have internalised their risk of sexual abuse into misconceptions about sexual violence and about the risk of HIV infection and AIDS. Participants who

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Table 4 Factors associated with claim among South African youth that they had forced someone else to have sex

Factor	Males			Females		
	No (%) with risk factor	Crude odds ratio	Adjusted odds ratio (95% CI)*	No (%) with risk factor	Crude odds ratio	Adjusted odds ratio (95% CI)*
Been forced to have sex:						
Yes	9159/44 989 (20.4)	4.13	3.35 (3.32 to 3.48)	4428/39 750 (11.1)	7.03	5.30 (5.02 to 5.59)
No	4752/81 413 (5.8)			1788/102 116 (1.8)		
Age (years):						
15-19	9782/72 213 (13.6)	1.91	1.61 (1.55 to 1.68)	4509/71 175 (6.3)	2.76	2.29 (2.16 to 2.34)
10-14	4127/54 483 (7.6)			1699/71 049 (2.4)		
Beliefs						
One has to have sex to show love:						
Yes	8977/60 041 (15.0)	2.18	1.66 (1.60 to 1.72)	2417/32 899 (7.4)	2.20	1.57 (1.49 to 1.66)
No	5000/6756 (74.0)			3818/109 709 (3.5)		
Girls like sexually violent guys:						
Yes	5584/33 355 (16.7)	2.06	1.47 (1.42 to 1.53)	1485/17 301 (8.6)	2.38	1.58 (1.48 to 1.69)
No	8393/93 742 (9.0)			4750/125 307 (3.8)		
Girls enjoy rape:						
Yes	5751/40 858 (14.1)	1.56	1.15 (1.11 to 1.20)	2378/40 510 (5.9)	1.59	1.16 (1.09 to 1.22)
No	8226/86 239 (9.5)			3857/102 098 (3.8)		
Girls mean yes when they say no:						
Yes	9092/72 850 (12.5)	1.44	1.17 (1.12 to 1.21)	3625/70 785 (5.1)	1.43	1.13 (1.07 to 1.19)
No	4885/54 247 (9.0)			2610/71 823 (3.6)		
Unwanted touching is not sexual violence:						
Yes	7744/70 132 (11.0)	1.01	0.93 (0.90 to 0.97)	3734/80 704 (4.6)	1.15	1.02 (0.97 to 1.08)
No	6233/56 965 (10.9)			2501/61 904 (4.0)		
It is not rape to force sex on someone known						
Yes	8295/79 251 (10.5)	0.87	0.85 (0.82 to 0.88)	3949/90 874 (4.4)	0.99	0.92 (0.87 to 0.97)
No	5682/47 856 (11.9)			2286/51 734 (4.4)		

*Simultaneous stratification by other factors shown.

claimed to have been forced to have sex were more likely to say they had forced someone else to have sex and were more likely to have views that would put them at high risk of HIV infection—for example, sex with a virgin can cure HIV infection or AIDS, condoms do not protect against HIV.

Our questionnaire was provided in nine languages and was completed by respondents in the best achievable conditions for anonymity. We have no way of knowing how many pupils exaggerated their responses or were inhibited by the proximity of peers in crowded classrooms. Although we obtained high response rates to individual questions (95.7%-100%), the brevity of our survey did not allow for detailed responses. Because of the nature of our study design, we were only able to look at associations between attitudes and sources of information on risk of HIV infection. A longitudinal study of educational initiatives would confirm beneficial effects.

Our survey reflects the situation of school pupils only. Youth absent from school at the time of the survey may have been at higher risk. The extent of sexual abuse among females may be underestimated because of those who had to leave school as a result of pregnancy due to sexual abuse.

The belief that it is not rape to force sex on someone who is known was “protective” in our model of misconceptions about sexual violence and self declared perpetration of sexual violence. This could be because youth who believed it is not sexual violence to force sex on someone known were less likely than others to say they had forced sex on someone else, since their definition of rape excluded forced sex with anyone they knew.

The apparent expectation of sexual coercion among the youth and the associated adaptive attitudes contribute to a

culture of sexual violence. Males and females were affected similarly, showing a reaction to and a reinforcement of their everyday risk of sexual abuse. It is important that those responsible for educating youth about HIV infection take into account that youth may be changed by their personal experiences and environment and this is likely to condition their reaction to educational messages. We found no convincing association between attitudes and education on risk of HIV infection from a national non-governmental education programme, youth group, or church. The classroom setting seemed to be the only source of education consistently associated with fewer misconceptions. One in three youth believed they could be HIV positive. One in four of these had not even had sex, an indicator of ignorance of the mechanism of HIV infection. This failure of education comes at an important cost: youth who believed they were HIV positive had misconceptions about sexual violence and about the risk of HIV infection similar to those who had forced someone else to have sex.

Contributors: NA was principally responsible for designing and planning the study, analysis, and reporting. AH-F, JM, NM, VM, SMit, and MPS helped design and plan the study. AH-F coordinated the fieldwork and managed the data. JM helped with the fieldwork and data entry. NM helped with data entry. VM helped coordinate the fieldwork. SMha and LM helped design the study and supervise the fieldwork. SMit helped with the fieldwork, analysing the data, and reporting. TM and NN helped with the design of the study, the fieldwork, and data entry. MPS helped supervise the fieldwork. HS helped with the fieldwork. NA, AH-F, and SMit are guarantors.

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What is already known on this topic

Several studies report a high incidence of sexual abuse among South African youth

What this study adds

A history of sexual abuse distorts perceptions about sexual violence and the risk of HIV infection

South African youth of both sexes have a high prevalence of misconceptions about sexual violence and about the risk of HIV infection

Most of the youth who forced someone else to have sex had themselves been forced to have sex

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