

Condom Use Among South African University Students in the Province of KwaZulu-Natal

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Abstract South Africa has one of the highest HIV infection rates in the world, with young people particularly affected. Condoms are an effective preventative method against HIV among sexually active adults. This study assessed the level of condom usage among university students in South Africa and their attitudes towards condom usage, negotiation efficacy and confidence in condom usage. It was a cross-sectional study conducted amongst South African university students living at the university residences. Students were randomly selected and required to complete a self-administered questionnaire. The mean age of participants ($n = 441$) was 22.7 ± 4.3 years. The mean age of sexual debut was 17.7 ± 3.0 years with 1.4 ± 1.47 (range 0–13) current partners. Less than half of the students used a condom at sexual debut and only 28.5% used condoms during recent sexual activity. Those students who used a condom at first sexual intercourse had marginally more positive attitudes about condom usage than those who did not do so ($p = 0.056$). Students with a single current partner had more positive attitudes about condom usage than those with multiple current partners ($p = 0.021$). Only 32.5% ($n = 127$) of the students were very confident in using condoms. Similarly, only 33.0% ($n = 130$) of the participants felt that they could definitely negotiate condom use with their partners. We conclude that condom use among South African students is low and that they lack the confidence to use condoms. We recommend that programmes to step up condom use must also incorporate educational interventions on usage.

Keywords Condom · HIV · South Africa · University students

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Introduction

Sub-Saharan Africa remains the epicentre of the HIV pandemic and accounts for 64% of all people living with the virus in the world (UNAIDS and WHO 2006). South Africa has one of the highest HIV infection rates globally and the largest age group of people living with HIV in South Africa are youth aged between 15 and 24 years (Shisana et al. 2009). Furthermore, the province of KwaZulu-Natal in South Africa has the highest prevalence of HIV (16.9%) with 12% of youth in the 15–24 year age group being HIV-positive (Hitchcock 2016). Therefore, this age group is at high risk of HIV infection.

Condoms are one of the most effective preventative methods against HIV and sexually transmitted infections (STIs) for sexually active young adults (Hendriksen et al. 2007). Consistent and correct condom use reduces the risk of HIV infection by 80–90%, thus encouraging use of condoms is especially critical for those who are sexually active (Halperin et al. 2004). Incorrect and inconsistent condom use are some of the challenges hindering the success in the fight against STI's and HIV infection (Beksinska et al. 2012). It has been reported that among South African youth in 2004, between 57 and 59% of young men and 48% of young women have used condoms during recent sexual intercourse occasions (Simbayi et al. 2004). However, these figures are lower than what is necessary to control the HIV/AIDS pandemic among young adults (Simbayi et al. 2004). A study in 2006, among adolescents aged between 15 and 19 years in KwaZulu-Natal, reported that condoms were not popular because they reduce sexual pleasure, challenge ideas of masculinity, and question partner fidelity (Maharaj and Cleland 2006).

Since 1993, the South African government provides free condoms in public buildings with a greater distribution in areas where high risk sexual behaviour is prevalent (Society for Family Health 2015). However, there were concerns regarding the comfort, unpleasant smell and breakage; reasons cited for men not wanting to use these condoms (Mulwo et al. 2009). In contrast, female higher education students agreed with the importance of using condoms (Mantell et al. 2009). These positive attitudes towards using condoms are good predictors of condom use (McCall et al. 2016). Condom use self-efficacy, defined as the “judgment of one’s capability to accomplish a certain level of performance” (Bandura 1986) is recognised as a predictor of condom use, where higher condom use self-efficacy scores were significantly related with condom usage (Hendriksen et al. 2007).

In addition, negotiating safer sex practices and communication between sexual partners is also associated with an increase in condom usage (Sheeran et al. 1999) and is crucial in the fight against HIV infection (Exavery et al. 2012). Those who are unable to negotiate condom use with their partner may be exposed to the risks of contracting HIV and may also be less likely to test for HIV (Pitpitan et al. 2012). In sub-Saharan Africa, women are not confident in negotiating condom use (UNAIDS 2013). Women also have difficulty in negotiating condom use and this may be related to their financial dependence on men (Dube et al. 2017). It is

suggested that gender roles play an integral part in male and female efficacy in negotiating condom use (Boyd et al. 2015; Wingood and DiClemente 2000) and their attitudes towards use of condoms (Mustanski et al. 2014).

This study aims to assess (i) the level of condom usage among university students in KwaZulu-Natal, (ii) attitudes of students towards condom usage, (iii) condom use negotiation efficacy among students and (iv) confidence level in condom usage.

Methods

This was a cross-sectional study conducted amongst South African students, living at the residences of a university of technology in KwaZulu-Natal, South Africa. Seven residences from the total of 15 were randomly chosen for the study. Students from different years of study were subsequently selected randomly from each of the residences. Participation was voluntary and no students were forced into entering the research study. All students were provided with verbal and written information about the study. Those who agreed to participate signed a consent form prior to answering the self-administered questionnaire.

A total of 450 questionnaires, in the English language, were distributed. The questionnaire was adapted for the local context from previously established measures (DiClemente and Wingood 1995; Hood and Shook 2013). Content validity was ensured by an expert group comprising of academics and post-graduate students. Prior to administration of the questionnaire, it was first piloted with five students, who met the inclusion criteria. These students were subsequently excluded from the main study. Minor language changes were made after the pilot study was completed. These changes ensured understanding of all terminology by students at the local level.

The questionnaire comprised of questions to obtain demographic characteristics and data on sexual history. It also included questions on attitudes towards condom usage, condom negotiation efficacy and confidence in condom use.

Condom Attitude Scale

This scale was adapted from Hood and Shook (2013) for an adolescent population. This measure had 25 items with response options from 1 (strongly disagree) to 5 (strongly agree). Some items on this scale included “condoms are pleasant to use”, condoms are inconvenient”, “sex with a condom does not feel natural” and “the use of a condom can make sex more stimulating”. Mean scores ranged from 1 to 5 and the scores for the negative statements about condom usage were subsequently reversed scored. Higher scores indicated more favourable attitudes towards condom usage.

Condom Negotiation Efficacy Scale

This measure was obtained from the SISTA program curriculum materials (DiClemente and Wingood 1995). There were seven items in this scale, which included the following: “Can you discuss condom use with your main partner?”, “Can you

insist upon condom use if your partner does not to use one?”, “Can you stop and look for condoms when you are sexually aroused?”, “Can you insist on condom use every time you have sex, even when you are under the influence of alcohol and/or drugs?”, “Can you insist on condom use every time you have sex, even when your main partner is under the influence of alcohol and/or drugs?”, “Can you put a condom on without spoiling the mood?” and “Can you insist on condom use every time you have sex, even if you or your main partner uses another method to prevent pregnancy?”. Participants answered each statement on a four-point Likert scale each with options ranging from “definitely no” to “definitely yes”. Items were summed and averaged. Higher scores indicated greater efficacy in negotiating condom use.

Confidence in Condom Usage Scale

This measure was also obtained from the SISTA program curriculum materials (DiClemente and Wingood 1995). There were nine items in this scale that evaluated a person’s confidence in using condoms for example, “How confident are you that you could put a condom on a hard penis”. These statements were answered on a three-point Likert scale with the following options: “not confident”, “somewhat confident” and “very confident”. Items were summed and averaged with higher scores indicating greater confidence in using condoms.

Data was collected between August and October 2016 with subsequent entry onto SPSS version 23 for statistical analysis. Frequencies, means and standard deviations were calculated. Pearson’s Chi square tests were used to determine if any correlations existed.

Multivariate regression modelling was performed with the inclusion of relevant covariates. Odds ratio were calculated for binary outcome variables. Confidence intervals (95%) were calculated and a *p* value less than 0.05 was considered statistically significant.

The study was approved by the Durban University of Technology Institutional Research Ethics Committee (IREC 084/16). Permission to conduct the study at the university residences was obtained from the Head of Research. An honorarium of R50 (South African Rands) was paid to the participants to compensate them for their time.

Results

Demographics

A total of 441 completed questionnaires were received giving a 98% response rate. The mean age of participants was 22.7 ± 4.3 years and 52.4% ($n=231$) were female. Full demographics are indicated in Table 1.

The mean age of first sexual intercourse was 17.7 ± 3.0 years. The majority of students (81.2%; $n=358$) had sexual intercourse in their lifetime and (65.1%;

Table 1 Participant demographics

Demographic characteristic	Number of participants (%)
Gender	
Female	231 (52.4)
Male	210 (47.6)
Race	
Black African	421 (95.5)
Indian	11 (2.50)
Coloured	4 (0.90)
White	1 (0.20)
Other	3 (0.70)
Primary language	
isiZulu	309 (70.1)
English	57 (12.9)
isiXhosa	26 (5.90)
Other South African languages	15 (3.30)
Other African languages	23 (5.10)
Other	4 (0.80)
Level of study	
First year	113 (25.6)
Second year	74 (16.8)
Third year	126 (28.6)
Fourth year/B Tech	33 (7.50)
Masters	65 (14.7)
Doctoral	28 (6.30)
Religion	
Protestant or other Christian	306 (69.4)
Catholic	62 (14.1)
Shembe	26 (5.90)
Hindu	8 (1.80)
Jewish	2 (0.50)
No religious background	9 (2.00)
Other	25 (5.4)
Sexual orientation	
Heterosexual	420 (95.2)
Bisexual	8 (1.80)
Gay/Lesbian	6 (1.30)
Intersex	1 (0.20)
Unsure	5 (1.10)

$n=287$) were sexually active in the last three months. The mean number of current sexual partners was 1.4 ± 1.47 (range 0–13).

Condom Usage

Condom usage among the student population was low with less than half (45.2%) having used a condom at their first sexual intercourse and only 28.5% having used a condom at every sexual intercourse during the last 3 months. Over two-thirds (71.6%) of the students used a condom with someone whom they were casually dating and half (49.7%) used it with someone whom they were in a committed relationship with. Full details, with gender differences, are provided in Table 2. There were no difference in condom usage among the different language speakers ($p=0.088$), level of study ($p=0.329$) and those of different sexual orientation ($p=0.063$).

Attitudes About Condom Usage

More positive attitudes about condom usage were displayed by those who used condoms every time they had sexual intercourse compared to those who did not ($p<0.001$). Those students who used a condom at first sexual intercourse had marginally more positive attitudes about condom usage than those who did not do so ($p=0.056$). Students with a single current partner had more positive attitudes about condom usage than those with multiple current partners ($p=0.021$). Those who used a condom with someone whom they were casually dating had more positive attitudes about condom usage than those who did not do so ($p<0.001$). In addition, those who used a condom with whom they were in a serious relationship with, were also more positive about usage compared to those who did not do so ($p=0.008$). Females had more positive attitudes towards condom use than did males ($p=0.004$).

Table 2 Condom usage among the student population

Variable	Number of participants (%)			P value
	Total Population	Male	Female	
Used a condom at first sexual intercourse	161 (45.2)	89 (47.3)	72 (42.9)	0.396
Always used a condom at intercourse in the last 3 months	97 (28.5)	47 (26.6)	50 (30.7)	0.354
Used a condom at last sexual intercourse	210 (59.3)	119 (64.0)	91 (54.2)	0.061
Used a condom with someone they were casually dating	244 (71.6)	121 (68.8)	123 (74.5)	0.236
Used a condom with someone they were in a committed relationship with	169 (49.7)	95 (54.0)	74 (45.1)	0.103

Confidence in Condom Usage

Only 32.5% ($n=127$) of the students were very confident in using condoms. Age at first sexual intercourse was positively correlated with confidence in condom usage ($p=0.036$). Using a condom at sexual debut was also positively correlated with confidence in condom use ($p=0.032$). Males (48.3%; $n=97$) were more confident than females (15.8%; $n=30$) about using condoms ($p<0.001$).

Condom Negotiation Efficacy

A third (33.0%; $n=130$) of the participants felt that they could definitely negotiate condom use with their partners. Age at first sexual intercourse was positively correlated with greater negotiation regarding condom usage ($p<0.001$). Those students who used a condom every time during sexual intercourse were better condom use negotiators than those who did not use a condom regularly ($p<0.001$). Greater negotiation efficacy was also displayed by those who used a condom with partners, whom they were in a serious relationship with ($p=0.036$). More than half of the participants indicated that they were able to insist on condom use, when under the influence of alcohol or drugs (60.2%; $n=264$; $p<0.001$). Similarly, they felt that they were able to insist on condom use when the sexual partner was under the influence of alcohol or drugs (71.4%; $n=315$; $p<0.001$). More females (40.0%; $n=78$) than males (26.1%; $n=52$; $p=0.014$) indicated that they could definitely negotiate condom usage with their partners.

Multiple logistic regression indicated that the probability of using a condom at the last sexual intercourse was increased in those who had positive attitudes about condom usage (OR 2.78, 95% CI 1.89–4.10, $p<0.001$). No other variable was associated with using a condom during the last sexual intercourse (Table 3).

Discussion

This study found low condom usage at sexual debut as well as during sexual activity in the last 3 months. These findings are similar to those reported 14 years ago (Simbayi et al. 2004). Hence condom usage has not changed in the last decade despite

Table 3 Multivariate logistic regression of condom use at last sexual intercourse

Variable	Condom used at last sexual intercourse		
	OR	95% CI	<i>P</i> value
*Positive attitude about condom usage	2.78	1.89–4.10	<0.001
Confident I condom usage	1.23	0.85–1.77	0.27
Able to negotiate use of condom	0.87	0.58–1.28	0.47
Gender	0.67	0.43–1.02	0.06

**P* value < 0.05

efforts being made to encourage condom use. Consistent condom usage as protection against HIV infection is crucial, particularly in regions of high prevalence such as the province of KwaZulu-Natal in South Africa, which has the highest prevalence of HIV in the world. Consistent use of condoms has been reported to reduce the risk of HIV infection by 80–90% (Halperin et al. 2004). Despite condoms being readily available, only 59% used one during the last sexual intercourse. Although condom usage was higher with irregular (72%) compared to regular sexual partners (49%), the findings suggest that the youth, particularly university students, are placing themselves at risk of HIV infection. This corroborates with previous South African findings conducted in 2003 (Bhana et al. 2008).

A novel finding of the current study is that females (compared to males) had more positive attitudes towards condom use and were better at negotiating condom usage with their partner. This contrasts with previous findings which indicated that South African females have difficulty in negotiating condom use with their partners (Boyd et al. 2015). However, the latter study was conducted among South African housewives and their difficulty in negotiating condom use was due to their financial dependence on their husbands and also due to cultural expectations for bearing children. There was thus an unequal power relationship among married partners. In contrast, it does not appear that male dominance drove sexual risk among the university students in the current study. The females in our study may not have been dependent on their partners for financial support and this possibly gave them more power in their relationship. Furthermore, women are becoming empowered through education and are able to make their own decisions with regard to their sexual behaviour. A limitation of the current study is that we did not ask for the age of the current or first sexual partner and this may influence the dynamics within the sexual relationship. Nevertheless, similar findings were reported among teenagers in South Africa (Bhana et al. 2008). Our finding that female university students are better negotiators of condom use, is encouraging and indicates a possible shift in decision making with regard to sexual behaviour. This contrasts to previous findings, which show that women lack decision-making power in sexual encounters (Mfecane 2013).

Condom use was relatively high (71.6%) when sexual intercourse occurred with a casual partner but this dropped to only half the respondents using a condom during sexual intercourse in a committed relationship. This could be attributed to resistance in the use of condoms in a long-term relationship, as requesting condom usage is viewed as a lack of trust (Osuafor and Mturi 2014; Maharaj and Cleland 2005). This is despite many of them reporting multiple concurrent partners, with as many as 13 current partners reported, thus increasing the chances of contracting HIV and other sexually transmitted diseases. Interventions to increase condom usage are important, together with interventions to increase faithfulness. These interventions are present in the messages given in awareness campaigns by organisations such as “LoveLife” (LoveLife 2017), but clearly are not sufficient.

Use of a condom at sexual debut was associated with positive attitudes about condom usage and greater confidence in its use. Therefore, awareness campaigns need to target young people and encourage use of condoms prior to them initiating sexual activity. Moreover, these programmes should attempt to delay the onset of sexual activity to a later age as students who commenced sexual activity at a later age were

also more confident in using condoms and were better at negotiating condom use with their partners.

The uncertainty regarding attitudes towards condom use and self-efficacy are a cause for concern as similar findings were found 17 years ago by Pletzer (2000), who reported that attitudes towards condom use and self-efficacy were barriers of condom use among university students in South Africa (Pletzer 2000). This indicates that although many awareness campaigns and health programmes have been implemented, young adults at university still exhibit uncertain knowledge and attitudes about condoms. Some authors are of the view that in this time period condoms have not been adequately promoted and made available among a number of populations at risk for HIV in SA including the youth (Beksinska et al. 2012). They also reported that there was not enough information available on media such as billboards to inform the public on where to find condoms. This was reflected by the findings that most people now purchased their condoms, which could lead to inconsistency and poor usage (Beksinska et al. 2012). Possible stigma attached to condom use (Mullinax et al. 2017) may have also contributed to no improvement in condom usage in the last two decades. A more intensive effort is required from all social work services and healthcare providers to enhance education and support of HIV prevention programmes.

We conclude that condom use among students is low and that they lack the confidence to use condoms. We recommend that programmes to step up condom use must also incorporate educational interventions on usage.

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Compliance with Ethical Standards

Conflict of interest The authors declare that they have no conflict of interest.

Ethical Standards All procedures performed in this study were in accordance with the ethical standards of the institution and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. Ethical clearance was obtained from the Durban University of Technology Institutional Research Ethics Committee (IREC 084/16).

Informed Consent Informed consent was obtained from all individual participants included in this study.

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