

Contraceptive practices in the era of HIV/AIDS among university students in KwaZulu-Natal, South Africa

Muhammad Hoque, Shanaz Ghuman

Abstract

University students as a population of young adults are reportedly at a higher risk of acquiring sexually transmitted infections and HIV infection than the general public due to their higher levels of sexual experimentation and unsafe sexual practices. The objective of this cross-sectional study was to find the patterns of contraceptive use among university students at Mangosuthu University of Technology (MUT), KwaZulu-Natal, South Africa. A total of 752 students were selected by stratified random sampling techniques. A self-administered questionnaire probing contraceptive usage and reasons for non-usage was used to collect data. The results were summarized using means (SD) for continuous variables and percentages for categorical variables. Chi-square test was used to find the association between gender and contraceptive use. The mean age of the participants was 21.25 years (SD = 2.99). Fifty-nine percent ($n = 442$) were sexually active. Of the sexually active students, 90.7% ($n = 401$) used contraceptives. Among contraceptive users, 90.5% ($n = 363$) used condoms. Gender was not significantly associated ($p = 0.327$) with contraceptive use, but there was a significant association between gender and condom use as males used condom more than females ($p < 0.001$). Eighty-one percent ($n = 323$) of the sexually active students reported that they had used a contraceptive the last time they had sex. Regarding frequency of contraceptive use, 38.7% ($n = 155$) reported that they use contraceptives sometimes or rarely. The frequency of contraceptive use was not significantly related to gender ($p = 0.305$). Among 60 participants those who disapproved of using contraception, 68.3% ($n = 41$) were afraid that contraception would cause sterility and 6 students reported that contraception would make their partner promiscuous. In conclusion, a large proportion of university students at MUT in South Africa are sexually active and use contraception, but the use may be inconsistent. Thus, more research is needed to create interventions on contraception uptake.

Keywords: *contraceptive practices, university students, South Africa.*

Résumé

Les étudiants en université, en tant que population de jeunes adultes, seraient davantage à risque de contracter des MST ou le VIH que le grand public, en raison de leurs niveaux d'expérimentation sexuelle et de pratiques sexuelles à risque plus élevés. L'objectif de cette étude transversale était de déterminer les schémas de l'utilisation de contraceptifs chez des étudiants en université à la Mangosuthu University of Technology, KwaZulu-Natal, Afrique du Sud. Au total, 752 étudiants ont été sélectionnés au moyen de techniques d'échantillonnage aléatoire stratifié. Un questionnaire auto-administré, enquêtant sur le recours aux contraceptifs et les raisons associées à leur non-utilisation, a été utilisé afin de recueillir les données. Les résultats ont été résumés en utilisant des moyennes (DS) pour les variables continues et des pourcentages pour les variables catégorielles. Le test du chi-carré a été utilisé afin de déterminer l'association entre le sexe et l'utilisation de contraceptifs. L'âge moyen des participants était de 21.25 ans (DS = 2.99). Cinquante-neuf pour cent ($n = 442$) d'entre eux étaient sexuellement actifs. Parmi les étudiants sexuellement actifs, 90.7% ($n = 401$) utilisaient des contraceptifs. Parmi les usagers de contraceptifs, 90.5% ($n = 363$) utilisaient des préservatifs. Le sexe n'était pas significativement associé ($p = 0.327$) à l'utilisation de contraceptifs, mais on a pu observer une association significative entre le sexe et l'utilisation du préservatif, les hommes utilisant davantage les préservatifs que les femmes ($p < 0.001$). Quarante-vingt-un pour cent ($n = 323$) des étudiants sexuellement actifs ont indiqué avoir utilisé un contraceptif au cours de leur dernier rapport sexuel. Concernant la fréquence de l'utilisation des contraceptifs, 38.7% ($n = 155$) des étudiants ont mentionné utiliser des contraceptifs parfois ou rarement. La fréquence de l'utilisation des contraceptifs n'était pas significativement associée au sexe ($p = 0.305$). Sur les 60 participants indiquant ne pas approuver le recours à la contraception, 68.3% ($n = 41$) avaient peur que la contraception puisse rendre stérile, et six étudiants ont indiqué que le recours à un contraceptif pousserait leur partenaire à la promiscuité. En conclusion, une proportion importante d'étudiants en université à la Mangosuthu University of Technology en Afrique du Sud est sexuellement active et a recours aux contraceptifs, mais leur utilisation peut être irrégulière. Par conséquent, des recherches supplémentaires sont nécessaires afin de créer des interventions visant à favoriser l'utilisation des contraceptifs.

Mots clé: *Pratiques contraceptives, étudiants en université, Afrique du Sud.*

Muhammad Hoque Department of Public Health, University of Limpopo (Medunsa Campus), P.O. Box 215, MEDUNSA, 0204, South Africa.

Shanaz Ghuman Department of Environmental Health, Faculty of Natural Sciences, Mangosuthu University of Technology, P.O. Box 12363, Jacobs, 4026, Durban, KwaZulu-Natal, South Africa.

Correspondence to: muhammad.ehsanul@gmail.com

Background

University students as a population of young adults are reportedly at an increased risk of acquiring sexually transmitted infections (STIs) and HIV and experiencing unwanted pregnancies than the general public, owing to their higher levels of sexual experimentation and unsafe sexual practices (WHO 2007). In southern Africa, it is estimated that more than 300,000 university students are infected with STIs and HIV and 15% experience unwanted pregnancies (WHO 2007). It is estimated that 60% of unintended pregnancies around the world occur among university students (WHO 2006). In most sub-Saharan African nations, over 20% of the adult population is infected with HIV, for example, South Africa with an adult HIV prevalence of 21.5% and Swaziland with 38.3% followed by Botswana by 37.3% (WHO 2006). HIV prevalence among youth in South Africa aged 15–24 years is higher than that among other age groups (Pettifor, Rees, Kleinschmidt, Steffenson, MacPhail, Hlongwa-Madikizela, *et al.* 2005). By the end of high school, over half of the Ethiopian adolescents are sexually active and some have multiple casual sex partners, use condoms inconsistently and abuse various substances (Tamire & Enqueselassie 2007).

Despite the availability of safe and effective contraception methods, unintended pregnancies and STIs continue to be reproductive health concerns for women (Barbour & Salameh 2009). High incidence of unplanned pregnancy is indicative of unprotected sex as well as non-usage of contraceptives (Mookodi, Ntshebe & Taylor 2003). Consequences of unprotected sex, such as unintended pregnancy and unsafe abortion, can be prevented by access to contraceptive services (Tamire & Enqueselassie 2007). Unsafe abortion is a major medical and public health problem among South African students (MacPhail, Pettifor, Pascoe & Rees 2007). The aim of the study was to determine the knowledge and patterns of contraceptive usage among university students.

Materials and methods

Study setting

Mangosuthu University of Technology (MUT) is located in Umlazi, about 18 km south of Durban, in the KwaZulu-Natal (KZN) province, South Africa. KZN has the highest antenatal HIV prevalence (39%) in the country (Department of Health South Africa 2007).

The university has a unique setting within a sub-rural area called Umlazi in the Emawaleni district of KZN, which is populated by predominantly historically disadvantaged people of South Africa. In 2009, day students numbered 8345, of which 4244 were females and 4101 were males. The university offers postgraduate qualifications, national diplomas and an extended curriculum programme in three faculties, namely Natural Sciences, Engineering and Management Sciences.

Study design, sampling and data collection

This study was a descriptive cross-sectional one performed in September 2009 among full-time undergraduate MUT students. Based on the population size of 12,489, the minimum sample size of 760 students was calculated using 95% confidence level

and statistical power of 90% using the Epi Info program. Samples were selected using multi-stage sampling techniques. MUT faculties were considered as strata. From each stratum, students were selected using probability proportional to sampling techniques. All the students who were registered for the year 2009 were part of the study. We excluded those who were attending the evening classes as well as part-time students.

The study was conducted by means of a self-administered questionnaire where the participants tick the appropriate boxes. In case the answer was other, then the participants had to write what the other was. Question content included information on demographics, sexual behavioural profile, knowledge and use of contraception, and reasons for non-usage of contraception. Demographic questions included age, gender and marital status. Regarding sexual activity and use of contraception, we asked the participants if they were presently sexually active or not. Those who were not presently sexually active were asked to give their views on the approval of their boyfriend/girlfriend using contraceptives and reasons for not giving approval. The sexually active students who were using contraceptives were asked to mention the methods of contraception and frequency of contraceptive use. Those who were not using contraceptives were asked to give their reasons for non-usage and they could give multiple answers.

For the purpose of optimizing the questionnaire, it was pre-tested with 10 students from MUT's extended curriculum programme and they were not part of the study. The questionnaire was then pilot-tested with a representative sample of another 10 MUT students and modified to ensure that it addressed the research aims.

The researcher allocated dates for different faculties. Prior to the allocation of dates, the researcher selected classes randomly and then communicated with the corresponding lecturer about the data collection procedure. Once the lecturer agreed, the researcher went to the corresponding lecturers' lecture room and attended the lecture. Once the lecturer finished his or her lecture (finished lecture 30 min before the scheduled time as agreed upon with the researcher), the lecturer introduced the researcher to the class. The researcher then provided an explanation of the study and the purpose and objectives of the study. A consent document was signed by each participant and the questionnaire was completed in the presence of the researcher in the lecture hall within 20 min. The participants did not receive any reimbursement.

Ethical considerations

Ethical permission for the study was obtained from the Research and Ethics Committee at MUT and permission was obtained from the Faculty of Natural Sciences Research & Publications Committee at MUT. The confidentiality of the participants was maintained at all times. To maintain the confidentiality further, identifiers of any form were not included in the questionnaire. Participation was voluntary and the participants were informed that they could withdraw from the study at any stage of the interview if they desired to do so without any penalty.

Data analysis

Data were entered into a Microsoft Excel 2003 spreadsheet and imported into SPSS 17.0.1 for Windows for analysis. The analysis results of the participants were summarized using descriptive summary measures: expressed as mean (SD) for continuous variables and percentages for categorical variables. Chi-square test was used to find the association between categorical variables. All statistical tests were performed using two-sided tests at the 0.05 level of significance. *p*-Values reported to three decimal places with values less than 0.001 are reported as <0.001.

Results

Of the 760 students approached, 752 consented and completed the questionnaire with a response rate of 99%. Table 1 summarizes the socio-demographic characteristics of the students as well as their association with being sexually active. The average age of the students was 21.25 years (SD = 2.99); 52% (*n* = 391) were females and 96.4% (*n* = 725) were single.

Current sexual activity was reported by 442 students (58.8%). Among 391 females, 205 (52.4%) were sexually active, and among 361 males, 237 (65.7%) were sexually. Age and gender were significantly associated with being currently sexually active (*p* < 0.001). Students aged above 20 years and male students were more likely to report of being sexually active than their counterparts (Table 1).

Table 2 presents the pattern of contraceptive use by the sexually active students. Among the sexually active students, 90.7% (95% CI: 0.88–0.93) used contraceptives, and among contraceptive users, 90.5% (95% CI: 87.63–93.37) used condoms followed by contraceptive pills (5.0%, 95% CI: 2.87–7.13). Gender was not significantly associated (*p* = 0.327) with contraceptive use as 92.0% of the male students were using contraceptive, which was slightly more than that reported by the female students (89.3%). There was a significant association between gender and condom use (*p* <

0.001) as 97.2% of the males used condoms compared with 82.5% of the females; 80.5% (95% CI: 76.62–84.38) of the sexually active students reported that they had used a contraceptive the last time they had sex, but it was not associated with the gender of the students (*p* = 0.543). Regarding how frequently they use contraceptives, 38.7% (95% CI: 33.93–43.47) reported that they use contraceptives sometimes or rarely. The frequency of contraceptive use was not significantly related to being male or female (*p* = 0.305). In total, 87.1% (*n* = 685) of the sexually active participants reported that a contraceptive was easy to access; 73.1% (*n* = 30) of the sexually active students reported that they did not think of contraception, whereas 60.9% (*n* = 25) reported the unavailability of contraceptives (Table 3).

Table 4 presents students' views on the approval of their boyfriend/girlfriend using contraceptives. In total, 79.2% (*n* = 596) reported of approving the use contraceptives by their boyfriend/girlfriend. Of 60 participants disapproving the use of contraception, 68.3% (*n* = 41) gave reasons such as the fear of contraception causing sterility and 6 students reported of contraception making their boyfriend/girlfriend promiscuous.

Discussion

The study was conducted to establish the patterns of contraceptive use among university students attending MUT in an HIV-hyperendemic setting in KZN, South Africa. More than half of the participants were currently sexually active. A majority of them used condom as contraception and more than a third used contraceptives sometimes or rarely.

The study indicates that 58.8% of the students are currently sexually active. Among the female students, 52.4% (*n* = 205) were sexually active. This finding is similar to those of other studies conducted in South Africa (Hoque & Hoque 2009; Peltzer & Promtussananon 2005). Another South African nationally representative study found 87% of women aged between 15 and 24 years to be sexually active (MacPhail *et al.* 2007). A Nigerian study conducted among undergraduate students found that 54% were sexually active (Omoteso 2006). In Uganda, it was found that 70% of the students were sexually active (Sekirime, Tamale, Lule & Wabwire-Mangen 2001).

A majority of the sexually active students in our study were using contraceptives, and condoms were the main contraceptives followed by contraceptive pills. This finding is similar to that of another study conducted in South Africa (MacPhail *et al.* 2007; Peltzer & Promtussananon 2005). In Ethiopia, among female university students, 10% of the respondents claimed to have used contraception methods, whereas in Nigeria, a study found that 30.1% had ever used a contraception method (Oyedokun 2007; Tamire & Enqueselassie 2007).

Regarding how frequently they use contraceptives, 38.7% (*n* = 155) reported that they use contraceptives sometimes or rarely. In terms of how often contraceptives were used, a study conducted in South Africa found that only 17.8% males and 22.5% females always used contraceptives (Oni, Prinsloo, Nortje & Joubert 2005). The utilization of contraceptives by the female undergraduate students has been reported to be low

Table 1. Demographic characteristics of the participants (N = 752)

Variables	<i>n</i>	Percentage	Sexually active (<i>n</i> , %)	<i>p</i> -Value
Age in years				
18–20 years	290	38.6	137 (18.2)	<0.001
21 years or more	462	61.4	305 (40.6)	
Average age (SD)	21.57 years (2.99)			
Sex				
Male	361	48	237 (65.7)	<0.001
Female	391	52	205 (52.4)	
Marital status				
Single	725	96.4	417 (55.5)	<0.001
Married/widow/living with boyfriend	27	3.6	25 (3.3)	

Table 2. Use of contraceptives among sexually active students

Variables	n	Percentage (95% CI)	Sex		p-Value
			Male (n = 237)	Female (n = 205)	
Ever used contraceptives (N = 442)					
Yes	401	90.7 (0.88; 0.93)	218 (92.0)	183 (89.3)	0.327
No	41	9.3 (6.59; 12.00)	19 (8.0)	22 (10.7)	
Contraception method used (N = 401)					
Condom	363	90.5 (87.63; 93.37)	212 (97.2)	151 (82.5)	<0.001
Injection	15	3.7 (1.85; 5.55)			
Contraceptive pills	20	5.0 (2.87; 7.13)			
Safe period	4	1.0 (0.03; 1.97)			
Withdrawal	6	1.5 (0.31; 2.67)			
Used contraceptive last time you had sex (N = 401)					
Yes	323	80.5 (76.62; 84.38)	178 (81.7)	145 (79.2)	
No	78	19.5 (15.62; 23.38)	40 (18.3)	38 (20.8)	0.543
How often do you use contraceptive (N = 401)					
Always	246	61.3 (56.53; 66.07)	139 (62.6)	107 (59.8)	0.305
Sometimes	137	34.2 (29.56; 38.84)	72 (32.4)	65 (36.3)	
Rarely	18	4.5 (2.47; 6.53)	11 (5.0)	7 (3.9)	
Easy to get contraceptives (N = 442)					
Yes	385	87.1 (83.98; 90.23)	211 (89.0)	174 (84.9)	0.194
No	57	12.9 (9.78; 16.03)	26 (11.0)	31 (15.1)	

Table 3. Reasons for not using contraceptives (N = 41)

Variables	n	Percentage
Know nothing about contraceptives	11	26.8
Unavailability of contraceptives	25	60.9
Partner did not want it	22	53.6
Did not think of contraception at that time	30	73.1

(Ominiya & Balogun 2009). A study done in Ethiopia among the university students has shown that about 4.9% of the students have had used contraceptives (Tamire & Enqueselassie 2007). Another study conducted in Ethiopia reported that only 10% reported of using contraception and pills (44%) were the most commonly used contraceptive followed by the injectables (13%) (Tamire & Enqueselassie 2007). A study conducted in Botswana found that teenagers are far less likely to use contraception than older women and the most popular contraceptive was the pill (Mookodi *et al.* 2003). Condom was the mostly used contraceptive among Nigerian women (Oyedokun 2007).

About three-quarters (73.1%, $n = 30$) of the sexually active students reported that they did not think of contraception, whereas 60.9% ($n = 25$) reported the unavailability of contraceptives as the reason for non-usage of contraception. These findings are similar to those of previous studies conducted in South Africa (Oni *et al.* 2005; Peltzer & Promtussananon 2005). There were

Table 4. Students' view on the approval of their boyfriend/girlfriend using contraceptives (N = 752)

Variables	n	Percentage
Approve boyfriend/girlfriend to use		
Yes	596	79.2
No	60	8.0
Unsure	96	12.8
Reasons for non-approval of contraceptive use (N = 60)		
The fear of contraception causing sterility	41	68.3
Making girlfriend/boyfriend promiscuous	6	10
Losing control over the boyfriend/girlfriend	4	6.7
Having less enjoyable sex	4	6.7
Desire to have a baby in order to prove their manhood	2	3.3
Desires to fall pregnant	3	5.0

several reasons given for non-usage among South African studies such as ignorance, unavailability, partner did not want it and not thinking about contraception at the time of sexual activity.

A majority (79.2%, $n = 596$) reported of approving the use of contraceptives by their boyfriend/girlfriend. It is worth noting that young people are changing their minds regarding contraceptive

use. Lots of campaigns regarding HIV/AIDS and STIs in this country might play a role in this regard. It is a matter of concern that young people have negative perceptions regarding contraceptives: 41 students reported that contraception would cause sterility and 6 students reported that contraception would make their boyfriend/girlfriend promiscuous.

The researcher was aware of the possible biases that could arise from the study methodology and selection bias was possible due to the nature of the sample. The sample was quite large and representative and thus minimized sample bias. Information bias was also possible due to the sensitive nature of the study. To minimize this type of bias, confidentiality was ensured and maintained. The researcher doubts that any measurement error would be sufficient to change the shape of the results.

Conclusion

A large number of university students at MUT in South Africa are sexually active and use contraception, but their use is inconsistent. Therefore, more research is needed to create interventions on contraception uptake.

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Conflict of interest: None

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