FACTORS AFFECTING SAFE SEX PRACTICES AMONG FIRST YEAR STUDENTS AT THE UNIVERSITY OF NAMIBIA: A HEALTH BELIEF MODEL PERSPECTIVE

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Abstract

The aim of the study was to investigate the level of awareness of condom usage among first year's students at the University of Namibia. Data was collected among 578 students within the various disciplines of the university through self-administered questionnaires that tested their knowledge, attitude and beliefs regarding HIV and AIDS. Research assistants were at hand clarifying ambiguities during the completion of the questionnaire. To ensure a good response rate, the researcher arranged with lecturers for students to complete questionnaires during lecture periods. A multi-stage sampling technique was used - in the first instances the number of campuses were purposefully recorded and stratified in accordance with the subjects offered and then students were randomly selected from the various faculties. Data was analysed using SPSS version 21. Results indicate that 80.1 % of the students are using condoms with their partner (s) while 76.3% used a condom during the past 12 month's preceding the survey.

Keywords: Condom usage, Health belief model, theory of reasoned action, theory of planned behaviour, University of Namibia students

Introduction

Usage of condoms is advocated by HIV control programs in reducing the transmission of HIV among those that are sexually active. Condoms are also seen as a fundamental component of comprehensive efforts to control the HIV epidemic within those that know their status and those that do not (Winskell, Obyerodhyambo, & Stephenson, 2011). The 2006-07 Namibia Demographic and Health Survey (DHS) reports condom usage of 64% among women aged 15-19 years and 53% among men in the same age category. This is supported by Mufune (2005) who indicates that 8.9% of sexual active women between 15-19 years consistently used condoms during sexual intercourse. Peltzer (2000) argued that factors affecting condom use include situational, interpersonal and structural knowledge about HIV and AIDS, behavioural intention, perceived susceptibility, perceived barriers, self-efficacy and demographic factors. He further argued that usage of condoms basically depends on target behaviour (safe sex intentions and reasoned action as a planned behaviour in the context of HIV prevention). Literature indicates a traditional model, i.e. health belief model that include the theory of planned behaviour (De Visser & Smith, 2001, Reid & Aiken, 2011,

Heeren, et al, 2009). The Theory of reasoned action (TRA) and the Theory of planned behaviour (TPB) include predictors of behaviour in situations requiring condoms.

Research on the efficacy of the health belief model (HBM) for HIV preventive behaviours indicates that perceived susceptibility, perceived benefits, and perceived barriers are the good predictors of HIV preventive behaviours (Peltzer, 2000). Thus these components of the HBM are crucial in the understanding of attitudes and beliefs about condom use. To this end the TRA suggests that a person's behaviour is determined by his/her intention to perform the behaviour and that this intention is, in turn, a function of his/her attitude toward the behaviour and his/her subjective norms and their perceived behavioural control (University of Twente, n.d.).

The TRA deals with a person's readiness to perform a given behaviour as it is constructed within the ambit of attitude, and subjective norms (University of Twente, n.d.). TPB, although an extension of the TRA, was created to provide a model of how to produce these behaviours and perceived behaviour control was added to it, and constructed in the ambit of attitude, subjective norm and behavioural control (Hankins, French, & Horne, 2000 p152). According to Rashidian and Russell (2012) TRA regards individuals as *rational actors* processing information that translate into intentions and result in behavior.

Attitudes toward behavior (attitude), perceived social pressure (subjective norm), and perceived behavioral control (perceived control) result in the formation of intentions. Intentions are the underlying psychological factor for the formation of behavior, while perceived controls may also contribute to it. Intention is the cornerstone of the TPB, both as a predicted variable and a predictor of behavior, and the strength of intention is the important predictor of behavior (Rashidian and Russell, 2012 p 18).

This paper is not aimed at comparing the ability of HBM, TRA or TPB to explain and predict condom behavior *per se* but instead draws from these health seeking behaviour models (HBM, TRA and TPB). It draws from key elements of these models and argues that behaviour changes are embedded in perceived severity of HIV and AIDS, perceived personal risk of HIV infection, perceived efficacy of condom usage, perceived self-efficacy and perceived social support (Ngome, et al., 2012). The purpose of this paper is to investigate these factors, that we believe effect condom usage among first year students attending a Namibian University. The information as derived will assist the University in making some policy directives that will enhance condom usage among students.

Methods

The population was first year students attending the University of Namibia for the first time. A total of 578 students were interviewed. The study was implemented with the permission of the Dean of Students who acts as custodian of students at the University. A self-administered questionnaire was handed out to students during a lecture period of Social Contemporary Issues, after arrangements with the lecturers in charge of the module. Both the researcher and research assistants were at hand to answer questions students had during the completion of the questionnaire. The normal duration for a questionnaire was close to 45 minutes. After completion, the questionnaire was collected by the research assistants. The analysis of this paper is restricted to 186 (32%) of students who report having on condom use with both current partners and with all partners during the past 12 months. The questionnaire implemented for the study was developed in conjunction with four Southern African Universities [129]. It was pre tested among 53 students (17 male and 36 female) for its

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readability, understanding and any ambiguity, and the time it takes to complete. The final questionnaire covered a range of topics such as, general characteristics (7 items), general knowledge of HIV and AIDS (5 items), sexual behavior (10 items), condom knowledge and usage (21 items), tertiary institutions (29 items), personal experiences with HIV and AIDS (25 items), and general statements (2 items).

Measurement

Condom use was the dependent variable for the paper. It was captured by the questions: "did you use a condom with your current partner" and "Did you use a condom with all partners in the past 12 months?

The paper constructed five predictor variables to explain current and or consistent condom usage among students. A positive response for each of the five main predictors' variables was awarded a score of **1** otherwise **0**. A positive response was an answer conducive to use of condom as a way to reduce sexual and reproductive health problems.

The first predictor was the students' perceived severity of HIV and AIDS. Two variables were used to determine students' perception of the severity of HIV and AIDS threat to sexual and reproductive health. Students' were asked whether there is no life after HIV infection. Secondly, they were asked if an individual diagnosed with HIV has AIDS. The second predictor variable constructed was that of perceived personal risk. Here two variables were included for the analysis. Students' were asked to indicate their level of risk of becoming infected with HIV in the future. Secondly, they were asked whether being a student places them at greater risk of contracting HIV and AIDS. Perceived condom attributes was the third predictor constructed, and it included three variables. Firstly students' were asked about their impression of the effectiveness of condom use in preventing sexually transmitted infections (STI). Furthermore, they were asked how they felt about a women carrying condom. Thirdly, they were asked the question - should the femidom (female condom) be made available to students. The fourth predictor - perceived self-efficacy - consisted of two variables. Here students were asked to respond to the questions - what would you do if you wanted to use protection but your partner refused, and secondly they had to respond to a Likert item "most of the time I want to use a condom but often end up not using it" with answers ranging from strongly agree to strongly disagree. The fifth predictor was social support. Here students were asks the question, apart from talking to your spouse/partner and children about HIV and AID do you have any conversations about HIV and AIDS with anyone else.

Analysis

Behavioural changes of students were constructed within the framework of "did you use a condom with, and did you use a condom with all your sexual partners in the past 12 months at the time of the study" was examined using a logistic regression analysis.

Results

Table 1 displays selected frequency distribution of students' involvement in sex. A total of 186 students' reported currently having sexual relationship as well as having had sexual relationship during the past 12 months. Just over half of the students reside in the central region. 58.1% of them were female. 35.5% falls in the age category of 19 years or less. With regard to the number of sexual partners, 14% of the students reported currently having more than one sexual partner as well as having had more than one sexual partner over the past 12 months.

Table 5: Percentage distribution of students who had a sexual relationship by selected background characteristics

Background characteristics	Number	Percentage
Region		
Central	98	52.7
North	88	47.3
Sex		
Male	78	41.9
Female	108	58.1
Age		
<=19	66	35.5
20+	120	64.5
More than one sex partner		
Yes	26	14.0
No	160	86.0
More than one sex partner in past 12 months		
Yes	26	14.0
No	160	86.0

Following Ngome., et al, (2012) we investigated five predictors of condom use found in the HBM. These are severity of HIV and AIDS, perceived personal risk, perceived condom attributes perceived self-efficacy and social support. As shown in Table 2, there were a low percentage of students that believed in the severity of HIV and AIDS. Thus 94.0 % of students in this sample said that there is life after HIV infection. Only 6% believed that there is **no** life after an HIV infection, and 10% believed that an individual diagnosed with HIV has AIDS. With regard to perceived personal risk, students at UNAM do recognise the importance of condom usage. Thus with regard to their perceived personal risk 76.1% felt that they are at risk of contracting HIV in the future if they do not use a condom. Similarly, 67.6% felt that being a student and being sexually active puts them at a greater risk of contracting HIV and AIDS if they do not condomise.

Theory of reasoned action (TRA) and theory of planned behaviour (TPB) predict how a person will perform or react to certain behaviours and or barriers to perform such behaviour. Attitudes toward behavior (attitude), perceived social pressure (subjective norm), and perceived behavioral control (perceived control) result in the formation of intentions that ultimately result in condom use behaviour. Thus, in line with TRA/TPB in the context of condom usage we looked at several perceived condom attributes. In particular, we tested students variables such as: belief that condoms are effective in preventing STIs, perception that it is acceptable for women to carry condoms, and that femidoms should be made available to students (Table 2). More than half of the students (67.2%) believe that a condom is effective in preventing a sexually transmitted disease. Almost all the students find it acceptable for women to carry a condom (94.9%). Possession of a femidom also seems to be very acceptable (84.8%).

Self-efficacy was constructed as a tool for behaviour change. Derived from the Social Learning Theory of Bandura, it suggested a high level of perceived behaviour in an individual as oppose to an individual with a low self-efficacy (Barkley & Burns, 2000) is important for change. Two questions asked students with regard to self-efficacy (refusing to have sexual intercourse if partner not willing to use condom and disagreeing to the statement that ‘most of the time I want to used use a condom I often end up not using’). With regard to the former 88.8% are of the opinion that they might refuse to have sexual intercourse if no protection is used and 81.0% disagreed with the statement that “most of the time I want to used use a condom I often end up not using”.

Evidence from the study show that students' with regards to social support are willing to discussed HIV and AIDS. 86.6% discussed matters with their spouse or partner, and at most 82.9% do have discussions with other people besides their immediate family.

Table 6: Percentage distribution of the selected variables indicating a positive influence of construct behaviour

	Frequency	
Respondents Characteristics/positive Responses	**Number**	**Percentage**
Severity of HIV and AIDS to health		
Believes that there is life after HIV infection	171	94.0
An individual diagnosed with HIV has AIDS	19	10.9
P**erceived Personal risk**		
Perceives being at risk of being infected with HIV in the future	134	76.1
Concerned that being a student places one at greater risk of contracting HIV and AIDS	117	67.6
Perceived Condom Attributes		
Believes that condoms are effective in preventing STIs	117	67.2
Acceptable for women to carry condoms	169	94.9
Femidoms should be made available to students	156	84.8
Perceived self-efficacy		
Can refuse to have sexual intercourse if partner not willing to use condom	150	88.8
Disagree that most of the time I want to used use a condom I often end up not using	145	81.0
Social Support		
I talk to my spouse/partner about HIV and AIDs	155	86.1
I have conversations about HIV and AIDS with other people besides my immediate family	150	82.9

Use of condom with current sexual partner

Out of the 186 students with sexual relationships, 88.5% reported use a condom in their sexual encounters. Bivariate analysis shown that sexual encounter was significantly associated with the younger students i.e. younger students are more likely to condomise than older students. Table 3 shows that male students are less likely than female students to use a condom in their sexual encounter (p=0.195). Students from the northern region (mostly rural) are also less likely to use a condom in their sexual relationship (p=0.856). These results are however not significant.

Table 7: Percentage distribution of selected characteristics and current used of a condom

	Current condom use with sexual partner		
Background Characteristics	**Used (%)**	**Not Used (%)**	**Total (N)**
Region			
Central	80.6	19.4	98
North	79.5	20.5	88
χ^2 p-value	***0.856***		
Sex			
Male	75.6	24.4	78
Female	83.3	16.7	108
χ^2 p-value	***0.195***		
Age			
<=19	87.9	12.1	66
20+	75.8	24.2	120
χ^2 p-value	***0.049***		
More than one sex partner			
Yes	88.5	11.5	26
No	78.8	21.3	160
χ^2 p-value	***0.250***		
More than one sex partner in the past 12 months			
Yes	80.8	19.2	26
No	80.0	20.0	160
χ^2 p-value	***0.927***		

Use of a condom in the past 12 months

Findings from the study show that 73.1% of students reported that they have used a condom consistently with their sexual partner during the past 12 months. There is again consistency with regards to the younger students' and condom use with sexual partner during the past 12 months. This is significant (p=0.017). Female students' seems not to be consistent with the use of condoms during the past 12 months (p=0.875). The northern region report inconsistent use of a condom over the past 12 months (p=0.950). These results however are not significant (see table 4).

Table 8: Percentage distribution of selected characteristics by condom use 12 months ago

Condom use with sexual partner in the past 12 months			
Background Characteristics	**Used (%)**	**Not Used (%)**	**Total (N)**
Region			
Central	76.5	23.5	98
North	76.1	23.9	88
χ^2 p-value	***0.950***		
Sex			
Male	76.9	23.1	78
Female	75.9	24.1	108
χ^2 p-value	***0.875***		
Age			
<=19	86.4	13.6	66
20+	70.8	29.2	120
χ^2 p-value	***0.017***		
More than one sex partner			
Yes	80.8	19.2	26
No	75.6	24.4	160
χ^2 p-value	***0.567***		
More than one sex partner in the past 12 months			
Yes	73.1	26.9	26
No	76.9	23.1	160
χ^2 p-value	***0.673***		

Multivariate Logistic Regression analysis

The two models presented in Table 5 include the predictors- severity of HIV and AIDS to health, perceived personal risk, perceived condom attributes, perceived self-efficacy, and social support. Model 1 predicts **current condom use** while model 2 predicts **condom use in past 12 months**. Only one component in model 1 is significant. This is under perceived self-efficacy (disagree that most of the times I want to use a condom I often end up not using it). The odds of current condom use for persons that disagree that "most of the times I want to use a condom I often end up not using it" is higher than those who disagree to the statement (OR=.166 p<0.004).

Several components in Model 2 are significant. They pertain to perceived self-efficacy, social support and age. The odds of condom use in the past 12 months for students that disagree that "most of the times I want to use a condom I often end up not using it" are higher than those who disagree to the statement (OR= .111 p<0.000). The odds of condom use in the past 12 months for students that talk to their spouse/partner about HIV and AIDs are much higher than those that do not (OR=.189 p<0.040). Similarly, The odds of condom use in the past 12 months for students that disagree that are younger are much more than for older students (OR= 3.752 p< 0.0.48) (see Table 5).

Table 9: Odds Ratios of the likelihood of currently using a condom and of using a condom in the past 12 months

Respondents Characteristics/Positive Responses	ODD Ratios	
	Current Condom use	Condom use past 12 months
Severity of HIV and AIDS to health		
Believes that there is no life after HIV infection	.370	.219
An individual diagnosed with HIV has AIDS	1.561	.405
P**erceived Personal risk**		
Perceives being at risk of being infected with HIV in the future	1.139	.764
Concerned that being a student places one at greater risk of contracting HIV and AIDS	.595	1.047
Perceived Condom Attributes		
Believes that condoms are effective in preventing STIs	1.185	1.492
Acceptable for women to carry condoms	.065	.041
Femidoms should be made available to students	2.719	.844
Perceived self-efficacy		
Can refuse to have sexual intercourse if partner not willing to use condom	.972	.490
Disagree that most of the time I want to used use a condom I often end up not using	.166**	.111***
Social Support		
I talk to my spouse/partner about HIV and AIDs	1.073	.189*
I have conversations about HIV and AIDS with other people besides my immediate family	1.237	.109
Control Variables		
Region	.957	.834
Sex of respondent	.370	1.503
Age of respondent	1.226	3.725*
More than one sex partner currently	3.383	1.061
More than one sex partner in past 12 months	2.350	5.182
Predicted correct percentage	84.0	83.2
-2 log likelihood	97.687	105.777
(N)	**(131)**	**(131)**

*Significant at p<0.05;**p<0.01, ***p<0.000

Conclusion

Modern HIV and AIDS control programs advocate for the use of condoms in reducing the transmission of HIV among those that are sexually active. Condoms are also seen as a fundamental component of comprehensive efforts to control the HIV epidemic within those that know their status and those that are not (Winskell, Obyerodhyambo & Stephenson, 2011). As argued by Chirimbana (2012) certain behaviours will result in the prevention of infection with STIs. Condoms are seen as an important method of safe sexual practices. More than half of the students agree that condoms are effective in preventing STI's. Close to 94.9% find it acceptable for women to carry a condom. While 84.88% agree that femidoms should be available to all students.

Two distinct traditional models, i.e. health belief model and theory of planned behaviour explain usage of condoms (De Visser & Smith, 2001; Reid & Aiken, 2011; Heeren, et al, 2009). Peltzer (2000) in particular lists factors affecting condom as ranging from interpersonal and structural knowledge about HIV and AIDS, behavioural intention, perceived susceptibility, perceived barriers, and self-efficacy to demographic factors. It is in this context that we identified factors affecting current condom and predictors of condom use within the past 12 months. The percentage of condom use among students was very high.

Results of the study did show that younger students are more likely to used condoms as opposed to older students. This is supported by literature (e.g. Chandran et al., 2012) that participants who are young were more likely to use condoms compared to elderly unmarried to married Africans. Multivariate analysis failed to support region and sex of respondent as meaningful factors in condom use. Age of respondent was a significant predictor of both current condom usage and condom use over the past 12 months.

Attitude is mostly described as a tendency to impute positive or negative evaluation to a certain type of behaviour (Jonas, Broemer & Diehl, 2000) and this might result in an intention to behave in a certain manner (Reid & Aiken, 2011). Students in this sample showed some attitudinal ambivalence (low percentage of severity of HIV and AIDS to health, i.e. can survive; two thirds had a perceived personal risk; two thirds thought that condoms are effective; perceived self-efficacy was high and social support was high). *In summary: students belief in their own capability to protect themselves against HIV infection and do not perceive HIVand AIDS as a severe threat to their health (terminal illness) and most of them can talk openly about HIV and AIDS to someone they know. However, two thirds believe that being a student places them at greater risk and a third are not convinced condoms are an effective preventative measure (28% reported that a condom had broken during sexual intercourse). So it seems that student's awareness and knowledge of HIV/AIDS is not the problem, but perhaps advice concerning correct condom use would be helpful.*

The results of this study supports some key elements of the Health Belief and TRA/TPB models that indicate behaviour changes are embedded in perceived severity of HIV and AIDS, perceived personal risk of HIV infection, perceived efficacy of condom usage, perceived self-efficacy and perceived social support. In particular there is support for the importance of self-efficacy and social support in condom usage. With regard to social support, Genberg et al., (2008) say that personal experience with HIV and AIDS is related to individual behaviours that can conform or not conform to societal social norm. Multivariate analysis results indicated that talking to spouse/partner about HIV and AIDS (social support) enhances condom use. Self-efficacy is a personal belief in our capabilities to execute some course of action (Artino Jr, 2012). Findings indicate that students who disagreed with the statement that "most of the time I want to use a condom I often end up not using" used condoms more (81%). This is in line with the self-efficacy element.

In conclusion University of Namibia policy makers should take into account the age of students, personal efficacy and social support in enhancing condom usage among students.

References:

Artino Jr, A. R. (2012). Academic selk-efficacy: from educational theoey to instructional practices, *1*, 76–85. doi:10.1007/s40037-012-0012-5

Barkley, T., W., & Burns, J., L. (2000). Factor analysis of condom Use Self-Efficacy Scale among multicultural college students. *Health Education Research, 15*(4), 485–489. doi:10.1039/her/15.4.485

Chandran, M. T., Berkvens, D., Chikobvu, P., Nostlinger, C., Colebunders, R., Williams, B. G., & Speybroeck, N. (2012). Predictors of condom use and refusal among the population of Free State province in South Africa. *BMC Publi Health, 12*(381), 14.

De Visser, R. O., & Smith, A. M. A. (2001). Inconsistent users of condoms: a challenge to traditional models of health behaviour. *Psychology, Health & Medicine*, *Vol 6*(1), 41–46. doi:10.1080/13548500020021900

Genberg, B. L., Kawichai, S., Chingono, A., Sendah, M., Chariyalertsak, S., Konda, K. A., & Celentano, D. D. (2008). Assessing HIV/AIDS Stigma and Discrimination in Developing Countries. *AIDS and Behavior*, *12*(5), 772–780. doi:10.1007/s10461-007-9340-6

Hankins, M., French, D., & Horne, R. (2000). Statistical Guidelines for Studies of the Theory of Reasoned Action and the Theory of Planned Behaviour. *Psychology and Health*, *15*, 151–161.

Heeren, G. A., Jemmott III, J. B., Mandeya, A., & Tyler, J. C. (2009). Sub-Saharan African University Students' Beliefs about Condoms, Condom-use Intention, and Subsequent Condom use: A Prospective Study. *AIDS Behav*, (13), 268–276. doi:10.1007/s10461-008-9415-z

Jonas, K., Broemer, P., & Diehl, M. (2000). Attitudinal Ambivalence. In *European Review of Social Psychology* (Vol. 11). John Wiley & Sons Ltd. Retrieved from http://www.tandfonline.com/doi/abs/10.1080/14792779943000125

Ministry of Health and Social Services, & Macro International Inc. (2008). *2006-2007 Namibia Demographic and Health Survey* (pp. 1–273). Windhoek, Namibia.

Mufune, P. (2005). Myths abouth condoms and HIV/AIDS in rural northern Namibia. *International Social Science Journal*, (186), 675–686.

Ngome, E., Odimegwu, C., Adedini, S., Ononokpono, D., Imasiku, E., Elwange, B., & De Wet, N. (2012). *Determinants of Condom Use among Adolescents in Botswana* (p. 15). Retrieved from paa2012.princeton.edu/papers/121564

Peltzer, K. (2000). Factors affecting condom use among South African University Students. *East African Medical Journal*, *Vol 77*(1), 46–52.

Reid, A. E., & Aiken, L. S. (2011). Integration of five health behaviour models: Common strengths and unique contributions to understanding condom use. *Psychology and Health*, *26*(11), 1499–1520.

Rashidian, A. and I. Russell General Practitioners' Intentions and Prescribing for Asthma: Using the Theory of Planned Behavior to Explain Guideline Implementation International Journal of Preventative Medicine. Jan 2012; 3(1): 17–28.

University of Twente. (n.d.). Theory of Planned Behavoir/Reasoned Action. Retrieved from http://www.utwente.nl/cw/theoreenoverzicht/theory%20clusters/health%20communicati...

Winskell, K., Obyerodhyambo, O., & Stephenson, R. (2011). Making sense of condoms: Social representations in young people's HIV-related narratives from six African countries. *Social Sciences & Medicine*, (72), 953–961. doi:10.1016/j.socscimed.2011.01.014