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FACTORS INFLUENCING CONDOM USE AMONG NIGERIAN UNDERGRADUATES: A MIXED METHOD STUDY

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ABSTRACT

Objective: This study's objective was to explore and assess the factors influencing condom use among Nigerian undergraduates within the age group 16-34 years.

Setting: The University of Lagos, a federal University in the commercial capital of Nigeria.

Study design: Both qualitative (focus group discussions) and quantitative (cross-sectional survey) methods were utilised for this study.

Subjects: A total of 101 subjects were recruited with age range 18 to 34 years as against 100 years, with a mean age of 21 years. Data collection was conducted in July and August 2011 at the University of Lagos.

Subjects: A total of 820 students from University of Lagos in four faculties participated in the cross-sectional survey, and we organised four focus group discussions with six students each.

Results: Students were of the perception that various socio-economic and environmental factors influenced condom use during sexual intercourse. Factors identified as having great influence on condom use include: "adequate sex education" and "unplanned/unanticipated sexual intercourse". Conversely, the influence of alcohol/social drugs on condom use was ranked low.

Conclusion: The study showed that students had the perception that various factors influenced condom use but these perceptions varied between young men and women. It may therefore be rewarding to have customised messages based on specific needs when reaching out to different groups stratified based on gender.

Keywords: Condom, unsafe sex, HIV, gender, undergraduates.

INTRODUCTION

HIV has been a resilient global crisis, a threat to human life and dignity, capable of eroding social and economic development(1). UNAIDS estimated a global figure of 33.3 million people living with HIV at the end of 2009(2). Nigeria with an estimate of 3.14 million (2010 figures) people living with HIV, accounts for about 9% of the global HIV burden, only second after South Africa². Heterosexual intercourse accounts for 80-95% of HIV transmission in Nigeria(3). The prevalence of HIV has been shown to be higher among males that reportedly ever had sex (3.8%) compared to those who never had sex (1.7%). Among females, those that have had sex had a prevalence of 4.7% and those that had not, a prevalence of 1.7%⁴. These figures

further underscore the significance of heterosexual intercourse as a route of HIV transmission in Nigeria. Furthermore, HIV prevalence has been shown to be higher in those with formal education as compared with those without formal education (3). Similarly, a slightly higher prevalence has been noticed in urban areas (3.8%) as compared to rural areas (3.5%) (3). The 2010 trend in HIV prevalence in Nigeria shows a steep rise from 3.0 % in the age group 15-19 years to 4.6% in the 20-24 years age group. Prevalence was 5.4% in the age group 25-29 years and peaks at 5.7% in the age group 30-34 years (country's average: 4.6%) (2). The increasing prevalence of HIV across these age groups has been linked to unsafe sexual practices (3). Furthermore, the knowledge of HIV / AIDS may not be lacking in these age groups, as reports collected

from Nigerian public secondary schools in 2009 showed that family life and HIV / AIDS were included in the curriculum in 23% of public secondary schools (3). Moreover, a study conducted among Nigerian undergraduates at the University of Ibadan showed 100% awareness of HIV preventive efforts. In this study, almost all those interviewed acknowledged that condom use as a barrier method is efficacious for prevention of infection, but about 20% of males and 5% of females acknowledged not using condom with persons being met for the first time⁵. It may therefore be important to study the age group 15-34 years in tertiary education institutions if the MDG 6 is to be achieved in Nigeria. The literature is replete with different unsafe sexual behaviours in this age group. However, there is paucity of information about the factors influencing condom use despite adequate knowledge about safe sex and its benefits.

Unsafe sex among Nigerian youths: In Nigeria, the 2008 National demographic and health survey showed that 29% of women aged 15-24 years reported having sexual intercourse with a non-marital and non-cohabiting partner. Only 36% of these women used a condom during the last time they had such sexual intercourse. Similarly, 79% of men within this age group had sexual intercourse with a non-marital and non-cohabiting partner with only 49% using a condom during the last episode of such sexual intercourse (12).

Factors influencing condom use: Literature suggests that factors influencing condom use consist of a range of situational, interpersonal and structural factors. Sexual risk behaviour is also affected by social and cultural influences. When it is perceived that others approved of condom use, individuals tend to have condom protected sex⁷. Evidence also exists that condom use varies with the duration and type of partnership. As the duration of the relationship increases, the need for condom becomes less important (8).

Identified prerequisite behaviours to condom use include buying condoms, carrying condoms and discussing it with a sexual partner. These behaviours go a long way in influencing having protected sex (9-11). Furthermore, studies have shown the relevance of interpersonal factors to condom use behaviours (12-15). These studies propose that interpersonal factors in this respect comprise communication and negotiation, which are key to the enactment of condom use. This is particularly so because sexual relationships occurs in the setting of a dyad requiring negotiation and communication. It has been noticed that the main concern in a stable relationship is pregnancy prevention (16-18). The consequence of this is that other preventive methods, such as pills, will replace condom use.

Gender roles and unsafe sex: Studies have shown that women are usually at a disadvantage in sexual relationships because of socio-economic constraints and gender discrimination, limiting their ability in negotiating sex (19). In Nigeria, the 2010 National HIV sero-prevalence sentinel survey revealed that there are more males than females under age 15 years living with HIV. However, this ratio is reversed after age 15 years (2). Moreover, many researchers opine that decisions to engage in protected or unprotected sexual intercourse are often made by the male partner (20). Direct attempts by women to avert sexual risk by condom use often conflict with gender roles of modesty and submissiveness (21). Conversely, women can ensure an indirect control over mode of sexual activity by partner choice and influencing the pace and conditions for sexual intimacy (22). Some researchers have suggested that it is essential to conduct research on both men and women if HIV prevention interventions are to be targeted effectively (23).

The overall objective of this study was to explore and assess factors influencing condom use among Nigerian undergraduates, by identifying perceptions of students with regards to factors that influence condom use, and analysing the variation of these perceptions between male and female groups.

MATERIALS AND METHODS

Data collection was conducted in July and August 2011 using both qualitative and quantitative methods. Qualitative data were used to explore the perceptions concerning factors influencing unsafe sexual behavior, while the quantitative information helped to assess the magnitude of these findings. The principal investigator collected the data with the aid of 4 research assistants, who were trained with the research instruments.

Study location and population: The study was conducted at the University of Lagos, a Federal university in the commercial capital of Nigeria. The University is situated in the centre of the city. Like the city of Lagos, the University has a mixed population from all over the country and from all walks of life. The University is made up of 10 faculties with an undergraduate population of about 22,000 registered students.

Qualitative study: The qualitative aspect of the study was conducted using four focus group discussions (two male and two female groups). Each of the focus group discussion had six participants. Students were selected by purposive sampling. Inclusion criterion was students belonging to other faculties apart from the four faculties used for the cross-sectional survey. The qualitative data were collected with the aid of a

focus group discussion guide. The central themes of the FGD guide were pressures to engage in unsafe heterosexual activities and perceptions about condom use. The participants were also requested to fill and sign an informed consent form before participation. The data were analyzed manually using Graneheim and Lundman's method of Qualitative content analysis²⁴. The text was analyzed into meaning units, condensed meaning units, codes, sub-categories, categories and themes.

Quantitative Study: Self-administered questionnaires were distributed among students as a cross-sectional survey of their perceptions. The sample size was determined using Epi info software (Version 7.0.9.34, Centre for Disease Control and Prevention (CDC), USA 2012) where:

Population size = 22,000 (Estimated population of the University)

Expected frequency- 50%

Confidence limits- 5%

Confidence level- 95%

Sample size was calculated to be 378 but sample size of 820 was used to have increased number of students represented in the study. Student participants for the cross-sectional survey were selected by cluster sampling using the identified 10 faculties of the University. Four faculties with the largest population of undergraduates (Education, Social Sciences, Sciences and Business Administration) were selected to minimise cost of the research. A total of 829 questionnaires were administered by convenience sampling from the various departments in the four faculties based on student population distributions within the faculties. However, only 820 questionnaires which were properly filled were used for the analysis. Inclusion criterion for participation was undergraduates between the ages 16 years and 34 years (the official minimum age of entry into the University being 16 years).

The questionnaire for the cross sectional survey had sections to assess the socio-demographic status of students and their perceptions in relation to factors influencing condom use. The section assessing perception consisted of a Likert scale²⁵ used to rank students perceptions about factors influencing condom use. The Likert scale was ranked from 1-5 as follows: 1- Totally agree with the other extreme being 5- Totally disagree. Prior to administration of the questionnaires, 15 copies were used for pilot study to ascertain clarity. The students that participated in the study were approached with the purpose of the study explained to them and the voluntary nature of it. Confidentiality was also assured. The participants were recruited based on their willingness to partake in the study and there was no financial reward for participation.

A descriptive analysis was done to detail the

students' perceptions about factors influencing condom use. Subsequently, the relationship between gender of the students and perceptions were analyzed using Mann-Whitney U test using SPSS (version 17, SPSS Inc., Chicago U.S.A.).

RESULTS

Qualitative study: Based on the four focus group discussions, a central theme, "sexual intercourse" was generated (As shown in Table 1). The theme "Sexual intercourse" had 2 categories: encouraging unprotected sexual intercourse and encouraging protected sexual intercourse. The sub-categories for the theme were:

- (a) Individual/Internal pressures
- (b) Environmental/societal pressures
- (c) Individual/Internal motivators
- (d) Environmental/societal motivators

Theme- Sexual Intercourse

Individual/Internal pressures encouraging unprotected sex: Most of the participants agreed that there were internal pressures that encouraged them to have unprotected sex. Such factors include being high on alcohol and social drugs with loss of mental alertness required to think of condom use and wear it properly. Ladies who felt the need to maintain a high financial status on campus did not see the need to negotiate for protected sex when money was involved. Some male students also believed that having unprotected sex increased the sense of manliness. An opinion that resonated through all discussions was reduced sexual pleasure with condom use. Similarly, some said condom use sometimes causes rashes for the females while some males experienced pain with condom use. Uncontrollable sexual urge was said to be common among those in puberty with consequent reduced condom use. Also, unanticipated sexual intercourse especially when it was the first sexual intercourse was likely to be unprotected. "Relationship security" was equally mentioned as a phenomenon that encouraged unprotected sex. Students had the fear that if they did not oblige their partner with unprotected sex, s/he may abandon the relationship in order to find someone who is comfortable with unprotected sex. One of the female participants in a focus group discussion explained further:

"Like you want to keep your boyfriend, and he says I don't want it protected or he ran out of condom and he says, let us do it and you do it, and the usual you are the only one I do have unprotected sex with, so we are safe, if your partner wants it, you just want to try it.....if you love someone, you should be able to have unprotected sex with them".

Environmental/Societal pressures encouraging unprotected sex: There was a general perception that peers could influence having unprotected sex by

putting pressure on you. Similarly, the practice and beliefs of your roommate could go a long way to influence students. It was also discussed that most pornography movies on electronic media including internet depicted unprotected sex as if it was the ideal.

Financial rewards motivating unprotected sex was also offered as a common reason that motivated unprotected sex among male and female students. It was also discussed that sex education from parents was often incomplete in content and not adequate to equip adolescents against unprotected sex.

One of the male participants discussing the importance of finances opined:

"So, you will not ask me to go out with one sugar mummy that does not have money. If she does not have money there is no sugar in your mummy. Understand, I will only go out with you because I want financial gain.in order to get that money, I will do whatever she ask one to do, if she ask me to have it raw, unprotected, I will do it because I want to get money".

Another male participant describing sex education from parents had this suggestion: *"we need to put this topic, the issue of sex education into our educational curriculum, instead of depending on only what your dad will tell you, what your mum will tell you. They can't tell you everything".*

Individual/Internal factors encouraging protected sex: Individual factors that could encourage protected sex include self-determination, as having protected sex depends on the individual mindset. Similarly, having a previous experience of sexually transmitted disease usually serves as a deterrent to unprotected sex. One of the participants in one of the male FGDs said: *"Like I said before, the beginning of STDs marks the beginning of wisdom. Nobody will have to compel you to use condom".*

Environmental/societal factors encouraging protected sex: Several factors were listed by participants as encouraging protected sex. These include the partner possessing condom and one of the female participants explained further:

"I feel it is the person you are with, if the person has any intention of having safe sex with you, he will have it (condom). If he doesn't have it, then he is not planning to have safe sex with you. I don't believe people run out of condoms".

Quantitative study

The study population: In total, 820 students participated in the survey. The participants were within the age range 16 years to 30 years. The mean age was 21.4 years (SD ± 2.24). The proportion of male and female participants was 50.1% and 49.9% respectively. The distribution according to ethnicity showed that 63% of the participants were Yoruba, 19% Igbo and 7% Hausa. Those belonging to other ethnic groups besides from these 3 main ethnic groups made up the remaining fraction.

Perceptions of factors influencing condom use during sexual intercourse: Table 2 shows that the median and mode of most responses centred around "agree" (2). However, the perception of excessive alcohol intake / social drug influencing condom use had a median of 3 (indifferent) and a mode of 5 (totally disagree). Similarly, stigmatization of condom users had median and mode of 3 (indifferent) and 2 (agree) respectively. Conversely, perception of "adequate sex education" and "unplanned sex" influencing condom use had median and mode of 2 (agree) and 1 (totally agree), respectively. The overall internal consistency had an overall α score (Cronbach) of 0.79.

Table 1
Sexual Intercourse (Themes, categories, sub-categories and codes)

Theme	Sexual intercourse			
Categories	Encouraging unprotected	sexual intercourse	Encouraging protected	sexual intercourse
Sub-categories	-Individual/Internal pressures	Environmental/societal pressures	Individual/Internal motivators	Environmental/societal motivators
Codes	<ul style="list-style-type: none"> -Being high on alcohol and social drugs. -Maintaining high financial status and sense of belonging (F). -Satisfy ego (M). -Love feeling -Reduced sexual pleasure with condom use. -Preference for non-barrier contraception. -Desire for pregnancy. -Sexual debut. -Curiosity -Inadequate knowledge about condom use. -Shyness to buy condoms. -Belief in mutual fidelity. -Uncontrollable sexual urge/unanticipated sex. -Fear of losing relationship on refusal. -Suspicion of infidelity with negotiation. -Belief that AIDS is unreal -Belief that condom is not fully protective. 	<ul style="list-style-type: none"> -Peer and older sibling's influence. -Roommate influence. -Unprotected sex in pornography movies. -Financial reward/paid sex. -Non-acceptance and stigmatization of condom use. -Condom culture is new and alien. -Cheap condoms are not durable. -Incomplete sex education from parents. -Unpleasant experiences with use. -Much older partner. -Difficult to negotiate its use (F). -Pressure to pass a male lecturer's course (F). 	<ul style="list-style-type: none"> -Self-determination/mindset. -Knowledge about STIs including HIV. -Previous experience of STIs. 	<ul style="list-style-type: none"> -Partner possessing condoms. -Sex education. -Restricted access to pornographic websites on campus. -Books and films on safe sex. -Availability, affordability and accessibility of condom. -User-friendliness of condoms

(M)- More common among male students (F) - More common among female students S/NO

Table 2
Perceptions of factors influencing condom use

S / N O	QUESTION: The following may influence condom use during sexual intercourse?	Frequency (%)					Median	Mode
		1	2	3	4	5		
1.	Excessive alcohol intake/social drug use	170(20.8%)						
		170(20.8%)	173(21.1%)	126(15.4%)	168(20.5%)	182(22.2%)	3.0	5.0
2.	Previous exposure to pornographic scenes on internet/TV	164(20.0%)	259(31.6%)	136(16.6%)	155(18.9%)	106(12.9%)	2.0	2.0
3.	Trust in partner's sexual faithfulness	206(25.1%)	281(34.3%)	137(16.7%)	116(14.1%)	80(9.8%)	2.0	2.0
4.	Partner's attitude towards condom use	272(33.5%)	328(40.4%)	122(15.0%)	60(7.4%)	30(3.7%)	2.0	2.0
5.	Adequate sex education	363(44.3%)	273(33.3%)	91(11.1%)	51(6.2%)	41(5.0%)	2.0	1.0
6.	Financial rewards for sexual activities	202(24.8%)	229(28.2%)	180(22.1%)	105(12.9%)	97(11.9%)	2.0	2.0
7.	Reduced sexual pleasure with condom use	154(18.8%)	266(32.5%)	195(23.8%)	130(15.9%)	74(9.0%)	2.0	2.0
8.	Availability of condom	243(29.7%)	303(37.0%)	135(16.5%)	103(12.6%)	35(4.3%)	2.0	2.0
9.	Stigmatization of condom users	126(15.5%)	241(29.6%)	232(28.5%)	155(19.0%)	61(7.5%)	3.0	2.0
10.	Previous unpleasant experiences with condom use (i.e. Ruptured condom)	138(16.8%)	274(33.5%)	172(21.0%)	154(18.8%)	81(9.9%)	2.0	2.0
11.	Peer pressure	244(30.0%)	306(37.7%)	133(16.4%)	85(10.5%)	44(5.4%)	2.0	2.0
12.	Unplanned sexual activities	242(29.6%)	235(28.7%)	121(14.8%)	124(15.2%)	96(11.7%)	2.0	1.0
Totally agree-1		Agree- 2	Indifferent- 3	Disagree- 4	totally disagree-5			

Gender differences in perception

Perceptions of factors influencing condom use: There were significant differences between the perceptions of male and female students concerning condom use. Female students had higher mean ranks than their male counterparts suggesting that female students' perceptions disagreed more that these

factors influenced condom use. This holds true for all variables except sex education where females tended to agree more that this influenced condom use. However, this was not of statistical significance ($P>0.05$). Similarly, the gender differences in perception of the association between condom use and peer pressure, availability and stigmatization of condom users, respectively, were not statistically significant.

Table 3
Gender differences in perception about condom use

S / NO	QUESTIONS: the following may influence condom use during sexual intercourse?	Sex	Frequency	MR	P-Value
1.	Excessive alcohol intake/social drug use	M	410	360.93	0.00*
		F	409	459.19	
2.	Previous exposure to pornographic scenes on internet/TV	M	411	366.52	0.00*
		F	409	454.70	
3.	Trust in partner's sexual faithfulness	M	411	383.19	0.00*
		F	409	437.94	
4.	Partner's attitude towards condom use	M	409	389.07	0.02*
		F	403	424.19	
5.	Adequate sex education	M	410	412.34	0.76
		F	409	407.65	
6.	Financial reward for sexual activities	M	409	371.76	0.00*
		F	404	442.68	
7.	Reduced sexual pleasure with condom use	M	411	385.00	0.00*
		F	408	435.19	
8.	Availability of condom	M	411	401.40	0.28
		F	408	418.66	
9.	Stigmatization of condom users	M	410	393.70	0.07
		F	405	422.48	
10.	Previous unpleasant experiences with condom use (i.e. Ruptured condom)	M	410	378.63	0.00*
		F	409	441.44	
11.	Peer pressure	M	406	391.24	0.05
		F	406	421.76	
12.	Unplanned sexual activities	M	410	385.62	0.00*
		F	408	433.49	

MR= Mean rank score

M- Male

F-Female

* Statistically significant ($p < 0.05$)

DISCUSSION

The qualitative study showed that various individual (internal) and environmental (societal) factors encouraged having unprotected sexual intercourse. The individual factors included: desire to maintain a high financial status, satisfying male ego, reduced sexual pleasure, belief in mutual fidelity among other factors influencing unprotected sexual intercourse. Environmental factors encouraging this practice include: Peer, older sibling and room-mate influence; unprotected sex in pornography movies, pressing financial need among other reasons volunteered. Similarly, individual (internal) and environmental (societal) factors encouraging protected sex were

highlighted. The individual factors comprise self-determination, knowledge about STIs and previous experience of STIs. The environmental factors encouraging protected sexual intercourse consist of: partner possessing condoms, sex education; availability, affordability and accessibility of condoms among other reasons offered.

The quantitative study corroborated the findings of the quantitative study. However, some of the factors were perceived as influencing sexual practices more than the other factors. Factors identified as having great influence on condom use include: "adequate sex education" and "unplanned sexual intercourse". Conversely, the influence of alcohol / social drugs on condom use was ranked low.

Our findings are in line with a study conducted in the University of Jos, Nigeria (26). That study showed non-availability of condoms, reduced sexual pleasure with condom use, resistance from sexual partners and reduction in trust accounted for why condom was not used by medical students during their last sexual intercourse (26). Our findings are also similar to the findings of a study conducted among students in Antananarivo University, Madagascar, that observed that sex with a steady partner, decrease in sexual pleasure, trust in partner, fear that condom generated side effects, partner's refusal, spontaneity of sexual acts, and embarrassment when purchasing condoms are some of the reasons why condoms were not used during sexual intercourse (27). The influence of alcohol on condom use was not a popular perception among students, particularly among female students. This is in contrast to a meta-analysis of studies among adolescents from U.S.A, Canada, France, Norway and Australia, which showed that alcohol use, influenced condom use (28).

Most of these perceptions varied significantly with the gender of students. This further supports the findings in the study in Antananarivo University (27). This study showed gender difference in perception of condom use with steady partners (27).

CONCLUSION

Our study highlights the factors influencing condom use among Nigerian undergraduates underscoring the gender variation in perception. Hence, it has become imperative that information and interventions aimed at improving sexual health of undergraduates and youth in general have to be customized targeting individual groups when possible, based on the peculiarity of needs.

REFERENCES

1. Buve A *et al.* The spread and effect of HIV-1 infection in Sub-Saharan Africa. *Lancet*. 2002; **359**: 2011-17.
2. Federal Ministry of Health. Department of Public Health National AIDS/STI Control Programme. 2010 *National HIV sero-prevalence sentinel survey*. 2010
3. UNITED NATIONS GENERAL ASSEMBLY SPECIAL SESSION (UNGASS) COUNTRY PROGRESS REPORT; Nigeria 2010: Available from http://www.unaids.org/en/dataanalysis/monitoringcountryprogress/2010progressreportsubmittedbycountries/nigeria_2010_country_progress_report_en.pdf
4. Adeyi O, *et al.* AIDS in Nigeria; a Nation on the Threshold (Harvard University Press, Harvard Series on Population and International Health) 2006.
5. Adedimeji A. *Perception of HIV/AIDS infection and condom use among undergraduates in Nigerian University*, Department of Sociology, University of Ibadan, Nigeria 2003.
6. National Population Commission (NPC) [Nigeria] and ICF Macro. Nigerian Demographic and Health Survey 2008. Abuja, Nigeria: National Population Commission and ICF Macro. (2009)
7. Carey K. *et al.* Community norms for HIV risk behaviors among men in a South African township. *J Behav Med*. 2011 February; **34**(1): 32-40. Doi: 10.1007/s10865-010-9284-6
8. Munguti K, Grosskurth H, Newell J, *et al.* Patterns of sexual behaviour in a rural population in north-western Tanzania. *Soc Sci Med* 1997; **44**: 1553-1561.
9. Bryan A, Fisher JD, Fisher WA. Tests of the mediational role of preparatory safer sexual behavior in the context of the Theory of Planned Behavior. *Health Psychol* 2002; **21**: 71-80.
10. Van Empelen P, Kok G. Action-specific cognitions of planned and preparatory actions of condom use among Dutch adolescents. *Arch Sex Behav* 2008; **37**: 626-40.
11. Van Empelen P, Kok G. Condom use in steady and casual sexual relationships: planning, preparation and willingness to take risks in the context of safe sex and adolescents. *Psychol Health* 2006; **21**: 165-81.
12. Noar SM, Edgar T. The role of partner communication in safer sexual behavior: a theoretical and empirical review. In: Edgar T, Noar SM, Freimuth VS, editors. *Communication perspectives on HIV/AIDS for the 21st century*. New York: Lawrence Erlbaum Associates/Taylor & Francis Group; 2008. p. 3-28.
13. Noar SM, Carlyle K, Cole C. Why communication is crucial: meta-analysis of the relationship between safer sexual communication and condom use. *J Health Commun*. 2006; **4**: 365-90.
14. Misovich SJ, Fisher JD, Fisher WA. Close relationships and elevated HIV risk behavior: evidence and possible underlying psychological processes. *Rev Gen Psychol*. 1997; **1**(1): 72-107.
15. Cline RJW. Everyday interpersonal communication and health. In: Thompson TL, Dorsey AM, Miller KI, Parrott R, editors. *Handbook of health communication*. Mahwah: Lawrence Erlbaum Associates; 2003. p. 285-313.
16. Hendriksen ES, Pettifor A, Lee SJ, *et al.* Predictors of condom use among young adults in South Africa: the reproductive health and HIV research Unit National Youth Survey. *Am J Public Health* 2007; **97**: 1241-48.
17. Shafii T, Stovel K, Holmes K. Association between condom use at sexual debut and subsequent sexual trajectories: a longitudinal study using biomarkers. *Am J Public Health* 2007; **97**: 1090-95.
18. Juarez F, Castro MT. Safe sex versus safe love? Relationship context and condom use among male adolescents in the favelas of Recife, Brazil. *Arch Sex Behav* 2006; **35**: 25-5.
19. Oyekanmi F.A.D. Women's attitude towards sexually transmitted disease in Nigeria: a case study in Ilesa in Osun state. *Africa development* 1990, pp 147-165.
20. Amaro, H., *Love, sex, and power*. American Psychologist 1995, **50**, 437-447.
21. Wingood, G. M., and DiClemente, R. J. Partner influences and gender-related factors associated with noncondom use among young adult African American women 1998. *American Journal of Community Psychology*, **26**, 29-51.
22. Peplau, L. A., Hill, C. T., and Rubin, Z. (1993). Sex role attitudes in dating and marriage: A 15-year follow-up

-
- of the Boston Couples Study. *Journal of Social Issues*, 49, 31–52.
23. Peplau LA. Human sexuality: How do men and women differ? *Current Directions in Psychological Science* 2003; 12:37–40.
24. Graneheim U.H., Lundman B.; Qualitative content analysis in nursing research: concepts, procedures and measures to achieve trustworthiness; *Nurse Education Today* (2004) 24, 105–112
25. Uebersax, J. S.; "Likert Scales: Dispelling the Confusion." *Statistical Methods for Rater Agreement*. 31 Aug.2006. Available from: <http://ourworld.compuserve.com/homepages/jsuebersax/likert.htm>.
26. Daniyam CA, Agaba PA, Agaba EI. Sexual behavior of medical students; *African Health Sciences* 2010; 10 (2).
27. Rahamefy O. et al. Sexual behavior and condom use among University students in Madagascar. *Journal of social aspects of HIV/AIDS* 2008 Vol.5 No. 1
28. Leigh BC. Alcohol intake and condom use: a meta-analysis of event-level studies. *Sex Transm Dis* 2002; 29 (8):476–82. [PubMed: 12172533]