

PERCEPTIONS OF SEXUAL BEHAVIOR AND KNOWLEDGE ON SEXUALLY TRANSMITTED INFECTIONS AMONG THE UNDERGRADUATE STUDENTS OF A UNIVERSITY IN NORTH WESTERN NIGERIA

¹BOLORI MT, ²ALIYU AA, ³LAWAN UM

ABSTRACT

Background: One of the greatest challenges that face Nigerians is the spread of Human Immunodeficiency Virus/ Acquired Immunodeficiency Syndrome (HIV/ AIDS). Sexually active youths in Nigeria are at high-risk of HIV infection. Many youths engaged in behaviors that place them at risk for HIV infections and other STIs.

Objective: To determine the perceptions of sexual behavior and knowledge of STIs among undergraduate students of A.B.U Zaria.

Method: A cross sectional descriptive study was carried out on undergraduate students of Ahmadu Bello University (ABU) Zaria. A structured self administered questionnaire was used to collect data by systematic random sampling technique.

Focus group discussions were also held. Data from questionnaires were analyzed by use of computer software, Statistical Package for Social Sciences (SPSS), version 16.0 and ones from focus group discussions by content analysis.

Result: The mean age of respondents was 25.5yrs (± 5.4). Ratio of males to female respondents was 2:1. Three hundred and thirteen questionnaires were returned filled out of the 320 distributed giving response rate of 97.8 per cent. Most of the respondents 98.4 per cent knew about some of the causes of STIs by name. About 10.2 per cent actually had an experience of at least an STI while 8.0 per cent took treatment for it. However, discussants revealed that sexual intercourse among the students in ABU, Zaria was very rampant. Students had perception that some of their colleagues might have been infected with HIV or other STDs (89.5%) and some of them saw that as curse (15.0%). Protective measures taken against STIs included abstinence from sex (67.7%), cut down number of sex partners (19.2%), use condoms all the time and sometimes (26.2% and 5.4%, respectively), screened for HIV infection (22.0%), stopped patronizing barbing saloons that do not sterilize their instruments (36.7%), had been careful where to take injections (43.8%) etc. About 8.6 per cent practice casual sex for certain reasons as pleasure (6.4%), financial (2.2%).

Conclusion: There is an urgent need to increase the proportion of the students in particular and public in general who have correct knowledge about STIs, promote, positive perceptions and behavior as well as skills to protect themselves adequately.

Key words: Knowledge, Perception, sexual behavior, Sexually Transmitted Infections, Students.

INTRODUCTION

Sexually transmitted Infections (STIs) are a group of communicable diseases that are predominantly transmitted by sexual contact between humans.¹ Causative agents of STI include wide range of bacterial, viral, protozoal, fungal agents and ectoparasites.^{1,2} Classical sexually transmitted diseases include syphilis, gonorrhoea, chancroid, lymphogranuloma venereum, donovanosis and HIV/AIDS.^{1,2,3} STIs have been found to be predisposing factors in the transmission of human immunodeficiency virus (HIV) infection.³ Globally,

there are about 333 million cases of STIs per year.⁴ One of the greatest challenges that face Nigerians is the spread of Human Immunodeficiency Virus / Acquired Immunodeficiency Syndrome (HIV/ AIDS).⁵ Sexually active youths in Nigeria were at high-risk related to HIV infections, with a national sero-prevalence of approximately 5.6 per cent at the time of study.⁶ Persons who engage in unprotected sexual intercourse or abuse drugs are at increased risk for HIV infection and/or other STIs.⁷ Many youths are engaged in behaviors that place them at risk for HIV infections and other STIs. The reasons for such have

Affiliation:

¹Community Medicine Department, University of Maiduguri, Borno state

²Department of Community Medicine, Ahmadu Bello University, Zaria, Kaduna state

³Department of Community Medicine, Bayero University Kano, Kano state

Correspondence and reprint request to:

Dr MT Bolori

Department of Community Medicine, University of Maiduguri, Borno state, Nigeria.

Email: mtbolori@yahoo.com

Mobile phone number: 08032512047

been stated to be financial benefits while others do it mainly because of sexual attraction.⁸ The Centers of Disease Control (CDC) in Atlanta estimated that about 12 million U.S. residents develop STIs each year, and at least 50 per cent of all people in U.S. will develop STIs at some time before they are 35 years old.⁹ In Malawi, study was conducted on perception, knowledge and behavior about STIs through interview of 154 adult males and females. At the end of the study, the result showed 76% of the respondents (18% for HIV/AIDS and 58% for other STIs) had some knowledge that biomedically matched descriptions of STIs.¹⁰ It has been reported that, while STIs remain common in Nigeria, only few of the sufferers among the youth seek treatment from private physicians and even fewer at public clinics.¹¹ Until recently, there had been no formal sexual education program for young people in Nigeria, and that had been a major barrier to reducing rates of HIV infection and other STIs in the country.¹² Barrier to reduction HIV infection rates could also be due to financial, social and behavioral factors.^{1,8,13,14,15} Another factor contributing to the spread of HIV and other STIs is the distinct lack of voluntary and routine HIV testing.¹² Increased travel both within and between countries, recreational drug use, alcohol and more frequent partner changes are also implicated.¹⁶ The STI of highest concern today is HIV/AIDS.¹⁷ Larger number of the students of the University were from the vulnerable population to HIV infection and other STIs.¹⁸

The Study was conducted to determine knowledge of STIs and the perceptions of sexual behavior among undergraduate students of A.B.U Zaria. The findings from this research will avail us with valid and reliable information about the students' knowledge and the perception of sexual behavior. This will go a long way towards helping individuals and stakeholders towards strategizing, planning and designing ways to fight the menace of STIs that face our youths today.

MATERIALS AND METHODS

A cross sectional descriptive study was conducted among the undergraduate students of A.B.U Zaria. The study was conducted in the Samaru campus of Ahmadu Bello University, Zaria in 8 weeks, from 3rd June to 29 July, 2008. The total number of student enrolment in the University undergraduate courses was 26991 (8332 females and 18659 males) in 17 residential halls and 50 different academic departments, for the 2007-08 session when the study was conducted.¹⁹ Administration was by systematic random sampling. Sample size calculated using the formula $[n = Z^2 pq / d^2]$ ²² with p value of 0.76 obtained

from a previous study.¹⁰ The questionnaire was pre-tested as a structured self administered questionnaire containing both close and open-ended questions. The questionnaire seeks to obtain information on socio-demographic profile, knowledge of sexually transmitted diseases and perception of sexual behavior on STIs. Prior to administration of questionnaires consent was obtained from individual respondents. The responses from the questionnaires were coded and statistical analysis was done by using Statistical Package for Social Sciences software program (SPSS) version 16.0. Focus group discussions were also held and the data obtained there from were analyzed by content analysis.

RESULTS

Total of 313 questionnaires out of the 320 administered were completed and returned giving a response rate of 97.8 per cent. As shown in table 1 the mean age of the respondents was 25.5 years (\pm : 5.4). The ratio of males respondents to that of females was approximately equal to 2:1. Majority of the respondents (91.7%) were single. Half of the respondents were Hausa, Yoruba or Igbo (table 1).

The knowledge level on STDs was high. Respondents mentioned the STIs they knew which included gonorrhoea (94.9%), syphilis (85.6%), HIV/AIDS (86.6%). Majority of the respondents knew that HIV could be transmitted through unprotected sexual intercourse (95.5%), unscreened blood (96.2%), mother to child transfer MTCT (82.4%) and sharp objects through sharing hypodermic needles/blades with infected persons (94.2%). On the other hand, about a quarter of them (25.5%) did not know that there is no cure for AIDS and that one cannot always tell if someone is infected with the virus (29.1%). The main sources of information of the participants on STIs were print media (70.3%), television (43.5%), radio (43.1%), friends, health talk (35.8%), friends (23.6%) and other sources 5.8 per cent. Some of the respondents admitted to have had experience of STIs (10.2%) with some (4.8%) of them declined to answer the question of whether they had that experience. About 8 per cent of respondents received treatment for STIs. The remaining (2.2%) who had not were mainly deterred by financial reasons (1.9%), being far away from health facility (1.3%), and fear of social stigma (2.2%).

About 85.7% of the respondents believed that HIV/AIDS was undesirable in the society and 73.5% did not perceive themselves to be at risk of being infected. Most of the respondents (98.4%) thought themselves as having some knowledge about STIs.

Table 1. Sociodemographic Characteristics of the Study Population (n=313)

Age	Frequency	Per cent
16-19	36	11.5
20-23	141	45.0
24-27	87	27.8
28-31	35	11.2
32-35	1	0.3
No response	13	4.2
Sex		
Male	211	67.4
Female	102	32.6
Marital status		
Single	287	91.7
Married	26	8.3
Tribe		
Hausa	86	27.5
Igbo	28	9.0
Yoruba	46	14.7
Others	151	48.2
No response	2	0.6
University Level		
100	49	15.7
200	121	38.7
300	61	19.5
400	66	21.1
500	14	4.5
No response	2	0.6
Religion		
Islam	188	60.1
Christianity	123	39.3
Others	2	0.6

Table 2. Respondents' Knowledge on Transmission Routes of HIV Infection, Features and Protective Measures against STDS (n=313)

	n (%)
Routes Of Transmission	
Mosquito bite	4 (1.3)
Unscreened blood transfusion	301 (96.2)
Sharp objects like razor blade and hypodermic needles	295 (94.2)
Unprotected sex	128 (95.5)
Mother to child transmission	258 (82.4)
Clinical features of STIs	
Painful genital ulcer.	215 (68.7)
Painless genital ulcer	62 (19.8)
Urethral discharge	227 (72.5)
Painful genital ulcer and painful groin swelling or ulcer.	199 (63.6)
Itchy and painful recurrent genital ulcer.	226 (72.2)
Vaginal discharge	234 (74.8)
Urethral discharge	227 (72.5)
Protective measures	
Abstention from sex	284 (90.7)
Use of condoms	248 (79.2)
Avoid transfusion with unscreened blood	261 (83.4)
Avoid sharing barbing instrument	258 (82.4)
Reduce number of sex partners	226 (72.2)
Maintain only a sex partner who is uninfected.	238 (76.0)

Table 3. Protective measures taken by respondents against STIs (n=313)

Protective Measure	Frequency	Per cent
Abstention from sex.	212	67.7
Cut down number of sex partners.	60	19.2
Used condoms all the time.	83	26.2
Started used condoms sometimes.	17	5.4
Screened for HIV.	69	22.0
Stopped patronizing barbing saloon that does not sterilize their instruments.	115	36.7
Avoid transfusion with unscreened blood.	148	47.3
Careful where to receive injection.	137	43.8

Some of the respondents feel that those infected with HIV are cursed (15%).

The behavior of the students did not quite reflect the wealth of their knowledge about STIs. Many decided to abstain from sex as protective measures against STIs. However, the other preventive measures of STIs such as consistent and correct use of condoms have not been practiced as much. Less than a quarter (22%) of respondents considered voluntary screening in their behavior to protect themselves from STIs as shown in table 5. About 24.9 per cent of the respondents were sexually active and more than 8 per cent of respondents had multiple sexual partners. About 23 per cent of the respondents had one steady sexual partner while about 4.5 per cent had more than one. Twelve percent of respondents admitted to having had casual sex for variety of reasons like financial benefits (2.2%), pleasure (6.4%), just used to it (1.6%). Some (8%) of the respondents had sex once a week while many others (13.0%) had more than one

ranging from 2-14 times a week and the focus group discussants had agreed among themselves that sexual intercourse with multiple partners was common among their colleagues especially among the boys. Majority of respondents took abstinence from sex as a protective measure against STIs.

Results of FGD

The results of the FGD revealed that majority of the students were knowledgeable about STDs and their methods of transmissions, prevention and where to seek treatment. However, one of the male participants mentioned masturbation as contributory STIs prevention. Most of the respondents had the perception that sexual intercourse among students was very rampant. One female participant admitted that condoms were not reliable because

pores could be present on them. Some of the males use condom mainly to prevent unwanted pregnancies rather than to prevent STIs.

DISCUSSION

This study showed that the respondents were within the age range of 16 to 35 years with average of 25 years (± 5.4). These age groups was consistent with that of similar study conducted in Lagos in 2009. This age group is typically involved in risky sexual behavior and are more vulnerable to STIs. The study group was heterogeneous in terms of ethnicity, sex and religion (Table 1). This nature of the study sample is expected as the institution admits students from all over the country and even beyond.

The study revealed that the respondents had some knowledge on STIs/AIDS as several of them namely identified gonorrhoea, syphilis and HIV/AIDS, while some few others identified the other STIs like Chlamydia, herpes simplex. However, this level of knowledge when compared with studies conducted in youths of higher institutions in the southwestern region of Nigeria in 2008 was relatively low where almost all knew about HIV/AIDS. The reason behind this was probably because students of the southwestern universities in Nigeria are general more informed. Compared with similar studies conducted in Benin city in 2009 the findings are consistent.⁸ The source of their information was mostly through reading, radio, TV, attending health talk at school and hospital, heard from other people, friends, and other sources. This was consistent with the findings in Benin City by Temian MD *et al.*⁸ That was because youth were more interested in reading magazines and other print materials than other media. The study actually confirmed through both the FGDs and the questionnaire that the respondents had good knowledge of the routes of transmission of the STIs. They knew that HIV could be transmitted through blood transfusion, sharp objects like blades and hypodermic needles, unprotected sex, mother-to-child transmission. These findings agreed with those of Folurunsho in Zaria in 2002.²¹ Most of the study groups had idea about the manifestation of STIs (Table 2) which included painful genital ulcers, painless genital ulcers, urethral discharge, painful ulcers with groin swellings, itchy or painful recurrent genital ulcers and vaginal discharges. The relatively low percentage of knowledge given for painless genital ulcers might be because painless ulcers might go unnoticed and hence not well known. In addition, STIs were described as being asymptomatic in some, especially females as found in the FGD. Some of the respondents of the study admitted to have had experience of STIs with some of them declined to

answer the question of whether they had that experience. This contributes to the secrecy involved in STIs among victims. About 8 per cent of respondents received treatment for STIs. The remaining who had not were mainly deterred by financial reasons, being far away from health facility, and fear of social stigma.^{1,8,15,18} Majority of the respondents also knew about the preventive measures of STIs/AIDS (table 2). They had agreed on the various preventive measures like abstention from sex, use of condoms, avoiding transfusion with unscreened blood, avoid sharing sharp objects like needles, blades, barbing instrument, reduce number of sexual partners, maintain only a sex partner who was uninfected. The focus group discussants agreed on the above measures but in addition also emphasized that health education and screening for HIV/AIDS and treatment were invaluable. However, one discussant felt that condoms were unreliable because they might be porous to allow infections to pass through. This is a misconception and should be discouraged. The discussants did not know the link between HIV/AIDS and the other STIs. One of the discussant thought presence of one STI could predispose to HIV/AIDS but could not explain how. Another participant thought that long standing STIs actually change to HIV/AIDS. This finding agreed with the findings of Temin in Benin.⁸ Presence of other STIs in an individual makes him/her more vulnerable to HIV.

Most of the respondents had the perception that sexual intercourse among students was very rampant. That was disclosed by the focus group discussants who also asserted that students seemed to have had sexual intercourse early in life. It is important fact that sexual promiscuity contributes to incidence of STIs. The respondents' perceptions about STIs were encouraging. However, few were having wrong perceptions concerning persons living with HIV. For example, some perceive that persons living with HIV were cursed.

The respondents' behavior in taking protective measures against STIs includes abstention from sex by majority. Others cut down the number of their sex partners, used condoms all the time, use of condom sometimes etc. It was easily seen that the level of protective measures taken by students was inconsistent with the level of their knowledge. For example, many knew abstention and use of condoms all the time as protective measures from STIs. However, about 67.7 per cent and 26.5 per cent respectively reflect this in their behaviors. About 24 per cent of the respondents were sexually active and

about 8 per cent of respondents had multiple sexual partners. About 23 per cent of the respondents had one steady sexual partner while about 4.5 per cent had more than one. Twelve per cent of respondents admitted to having had casual sex for variety of reasons like financial benefits, pleasure, just used to it etc. Some of the respondents had sex once a week while many others had more than one ranging from 2-14 times a week. The focus group discussants had agreed among themselves that sexual intercourse with multiple partners was common among their colleagues especially among the boys. Sexual promiscuity, casual sex with inconsistent use of condom is dangerous because these increase the chances of spread of STIs/HIV infections.^{1,8,18} Measures adopted by respondents to protect themselves against STIs/AIDS were abstinence from sex till after marriage, cut down number of sexual partners, use of condoms all the time, use of condom sometimes, had HIV screening tests to know self HIV status, stopped patronizing barbing saloon that do not sterilize their instruments, avoid transfusion with unscreened blood, being careful where to receive injections. In addition to the above majority of focus group discussants also added being faithful to their partners as another measure. Those findings were different from what was found in Lagos in 2008, where more than half refused sex without condom compared to those in this study who insisted on use of condom all the time and who used condoms

sometimes only. The low level of use of condom among the students in comparison to the findings of study in Lagos could be because of relatively low level of awareness. The focus group discussants however pointed out that use of condoms in most instances was because of fear of pregnancy and not just because of STIs. In addition, it was quite clear that knowledge of condoms use as a protective measure from STIs/AIDS was not commensurable with the behavior of student in use of condom all the time, which was only and sometimes. The reason was that behavior develops over time to become a habit.

CONCLUSION

The knowledge level of respondents about STIs was high; however, there were wrong perceptions and behaviors concerning the causes, where to seek for treatment and preventive measures of STIs among them.

RECOMMENDATION

To drastically reduce the transmission of STIs reverse global trends and achieve national and global targets in the prevention of and control of STIs including HIV/AIDS, there is an urgent need to increase the proportion of the students in particular and public in general who have correct knowledge about STIs, promote, positive perceptions and behavior as well as skills to protect themselves adequately.

REFERENCES

1. Park K. Parks Textbook of preventive and social medicine. 19th edition. PremNagar (India): M/s Banarsidas Bhanot; 2007. p. 278-283.
2. Anonymous. Sexually Transmitted Disease. Wikipedia, the free encyclopedia [Online] 2008 Dec 19 [cited 2009-Nov 23]: 1-10. Available at http://www.en.wikipedia.org/wiki/sexually_transmitted_diseases. Accessed 16/09/2011.
3. Penelope J H. Women's forum- opinion Women, children and STDs; addressing the other STD epidemic. Sexually transmitted disease and prevention; new challenges, new approaches (AIDSCAP/FHI-USAID) [Online]. 1996 [cited 2008 Nov 11]: 1-5. Available at <http://www.nzdl.Sadl.uleth.ca/cgi-bin/library?e=d>. Accessed 16/09/2011.
4. Marfatia Ys, Sharma A, Singh M, Swati E, Bansal N. Health care seeking behavior of STD patients. India J Sex Transm Dis 2005; 26(1): 23-27.
5. Health education. Ymca of Nigeria. Yworld [Online]. [cited on 2008 Dec 14]. Available at <http://www.nzdl.sadl.uleth.ca/cgi-bin/library?e=d>. Accessed 16/09/2011.
6. Joel M, Chukwuemaka A, Amusa B, Klindera K. Youth-friendly HIV voluntary counseling and testing services - from a youth perspective. Proceedings of int conf. AIDs. 2004 Jul [cited 2008 Dec 14] NLM Gateway. Service of the U.S. National institute of health. Available at <http://www.youth.Friendlyvoluntarycounselingtesting>.
7. Trends in HIV- and STD-related risk behavior among high students-United States, 1999 to 2007. [online] 2008 Aug 1 [cited 2008 Dec 18]; 57(30): 1-2. Available at <http://www.cdc.gov>
8. Temin MJ, Friday EO, Omorodion OF, Elisha PR, Paul C, Heggenhougen HK, Kaufman J. Perception of sexual behavior and knowledge

- about sexually transmitted diseases among adolescents in Benin city, Nigeria. *Int Fam Plann Pers* 1999; 25(4): 186-190.
9. Sparknote. Epidemiology and prevention. Epidemiology of STDs [online] 2008 [cited on 2008 Dec 27]; 1,2. Available at <http://www.sparknotes.com/health/stds/epidemiologyandprevention/sec>
 10. Dallabetta G, Allen H, Heltzer-Allen D, Kendall C. Sexually transmitted infections (STI) in Malawi; local perceptions, knowledge and behavior. *Int conf on AIDS 785* [abstract no. PoDo1-3404] [1]. NLM Gateway. Service of the U.S. National Institute of Health.
 11. Okonofua M, Coplan P, Temin M, Renne E, Heggenhougen K, Kaufman J. Nigerian youth treatment seeking behavior std: Target for intervention. *Int conf AIDS* [online] 1998 [cited on 2008 Nov 25]; 12:205(abstract no. 14115). NLM Gateway. A service of National Institute of Health.
 12. Sprink G. HIV and AIDS in Nigeria. Copyright avert [online] 2008 Oct 31 [cited on 2008 Dec 12]; 1,2. Available at <http://www.avert.org/aids-nigeria.htm>
 13. AFP: Oil prices rebound above 46 dollars per barrel. [online] 2009 [cited 2009 Jan 3]; 1,2. Available at http://www.google.com/hostednews/afp/article/AleqM5iL_MOSUaxFCLileoxSVzKK9tdkqa
 14. Kumar P, Clarke M (Eds). *Clinical Medicine* 6th edition. Edinburgh: Elsevier, Saunders; 200: 117-135,142-146.
 15. Bennett FJ. Social Aspects of Sexually Transmitted Diseases. In: Sofoluwe GO, Schram R, Ogunmekan DA, (Eds). *Principles and Practice of Public Health in Africa*. 2nd edition. Ibadan (Nigeria): University Press plc 1996: 300-303,314-321.
 16. Islam QM. STD: The burden and the challenge. In *Sexually Diseases prevention: new challenge, new approaches* 9AIDSCAP/FHI- USAID [online] 1996 [cited on 2008 Dec 4; Available at <http://nzdl.sadl.uleth.ca/cgi-bin/library?e=d-00000-00---off-0cdl--00-0--0-10-0---0---0pro...>
 17. Holme KH, Sexually transmitted diseases overview and clinical approach. In Kasper DL, Braunwald E, Fauci AS, Hauser SL, Jameson JL, (Eds). *Harrison's Textbook of internal medicine*. 16th edition. New York: McGraw-Hill Medical Publishing Division 2005:762-774.
 18. Lucas AO, Gilles HM (Eds). *Short textbook of public health medicine for the tropics*. 4th edition. London: Hodder Arnold 2003:106-118.
 19. Vice chancellor's office A B U Zaria Nigeria. *The five years of Mahadi administration in Ahmadu Bello University*. 1st ed. Zaria (Nigeria): Ahmadu Bello University Press 2004: 74, 89-91,206,207,210.
 20. Durojaiye CO, Knowledge, Perception and Behavior of Nigerian youths on HIV/AIDS. *The Internet Journal of Health*TM 2009:9(1)
 21. Folorunsho ROB. Knowledge Attitude and Practice of Precautionary Measures Concerning HIV/AIDS Among students of Nuhu Bamalli Polytechnic Zaria, Nigeria. Thesis submitted to the postgraduate school, A.B.U. Zaria in partial fulfillment for the requirement for the award of masters of Public Health Degree. 2002.
 22. Araoye MA (Ed). *Sample size estimation, Research methodology with statistics for health and social science* 1st edition. Ilorin (Nigeria): Nathadex Publishers; 2003. P.115-121,140-147.