

Sexually Transmitted Diseases (STDs) Among Adolescents In Second Cycle Institutions In Accra, Ghana: Trends In Sexual Behaviors

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Research Article

Abstract: Adolescents and youth form the vast majority of sexually active individuals. Many of these young people are at risk with the consequences of unexpected pregnancies and sexually transmitted infections (STI). The objective of this study was to assess the sexual behaviors of adolescents. Questionnaires were used to obtain data from 250 adolescents between the ages of 15-25 years in a second cycle institution in Accra. As much as 92.1% of the respondents' have had sex education before. About 49.2% have had sex between the ages of 13 and 18. Also 38.1% were led into having sex because they fell in love. 42.1% of respondents had more than one sexual partner. 35.7% of those who had sex said they used condom to protect themselves, 15.9% used vaginal foaming tablet and 41.3% used condom sometimes during sex. Fifty nine respondents who have had sex education had sex between ages of thirteen and eighteen and only one had sex below 12 years.

Forty five percent of respondents who have had sex education protected themselves with condoms when having sex. 78.6% of respondents were aware they can get a sexually transmitted disease from having sex unprotected sex and 77.8% knew that sexually transmitted diseases can lead to infertility.

In conclusion, sex education does not really have an effect on adolescent sexual behaviours. Knowledge on of sexually transmitted diseases did not reflect on how and when adolescents get involved in sex.

Introduction

The welfare of young people has become a major focus for governments, policymakers and service providers. The spread of HIV/AIDS and other sexually transmitted diseases has posed a major

challenge to nations in ensuring the welfare of the next generation, and the Republic of Ghana is no exception (1). In 2002 the estimated HIV/AIDS prevalence rate among the youth between the ages of 15–24years in Ghana was 3.4% and the median prevalence rate for the adult population increased from 2.3% in 2000 to 3.4% in 2002 (2)). As part of the response to the HIV/AIDS epidemic and the threat it poses to young people , it is important for adolescents to be thought sex education to enable them reduce these risks .

Sex education is a broad term used to describe education about human sexual anatomy, sexual reproduction, sexual intercourse, reproductive health, emotional relations, reproductive rights and responsibilities, abstinence, contraception, and other aspects of human sexual behavior (3). Common avenues for sex education are parents or caregivers, school programs, and public health campaigns. The existence of AIDS has given a new sense of urgency to the topic of sex education.

Sex education will help teenagers appreciate the negative impact of teenage pregnancy on their education, and consequently on their future, so that they would take necessary steps to avoid it (4). Sex education would go a long way in helping control AIDS and other sexually transmitted diseases like gonorrhea, non-gonococcal urethritis, pelvic inflammatory disease and syphilis, to name a few. Sex education to adolescents is the responsibility of

every parent and teacher (5). Sexually transmitted infections (STIs) can have serious effects on adolescent health, and may cause damage to their reproductive system (6).

Adolescents and the youth are at serious risk of contracting HIV, especially young women between the ages of 15-24. The estimated number of young women living with HIV/AIDS was more than twice that of young men (7, 8). Between 2001 and 2005, HIV/AIDS diagnoses among people aged 13 to 24 years increased more than 20% (9). The proportion of those diagnosed with AIDS continues to increase (3). In addition, adolescents and youths aged between 15 to 24 years represent approximately 25% of sexually active persons and accounted for nearly 50% of new STI cases (9, 10). Therefore, adolescents and youths are important subpopulation for sexually-related prevention and intervention efforts.

According to a research carried out by (11), four in 10 Ghanaian women and two in 10 men aged 15-19 years have ever had sex. By age 20 years, 83% of women and 56% of men have had sex; the median age at first intercourse is 17.4 for women and 19.5 for men. Among those who have had sex, four in 10 women and six in 10 men aged 12-24 have had more than one sexual partner. The proportion of 15-19-year-olds who have had sex declined substantially between 1993 and 1998: from 59% to 38% among women and from 33% to 19% among men (4, 12, 13). According to (14, 15) six in 10 teenagers say that knowledge of HIV/AIDS has influenced their behavior. It is imperative to assess the current state of evidence in Ghana on adolescent sexual and reproductive health, including the behaviors that put young people at risk and find out whether sex education really does have an effect on their sexual behavior.

Materials and Methods

Study design

The survey was employed to assess the sexual behaviors of adolescents in second cycle institutions within the Greater-Accra region.

Study area

The study was conducted in second cycle institutions in the Greater-Accra region. The Greater-Accra region is one of the ten (10) regions of Ghana. It is located in the southern part. It is also the capital region of Ghana and this makes it a cosmopolitan region with diverse groups of culture and nationals. It is one of the densely populated regions in Ghana. The Greater-Accra region is the only region that has a majority of second cycle institutions in Ghana. It is for this reason that the region was chosen for the study.

Study population

The study population included only students in the second cycle institutions in the Greater-Accra region. The sample size was 250 students at all levels within the second cycle institutions offering different programmes.

Sampling technique

Simple randomized sampling technique was used to obtain the study population.

Data collection

An interviewer administered, pre-tested, semi-structured questionnaire to collect data from respondents. Questionnaires were administered to 250 students in second cycle institutions in the Greater-Accra region. Students were educated on how to answer the questionnaire appropriately. The questionnaires were filled by ticking and writing where necessary. The variables studied included form, gender, age, and marital status, knowledge of sex education and knowledge of sexually transmitted infections, attitude to sex and knowledge of protection methods. The data collection process covered a period of one week to ensure that all target groups have been covered. Data analysis was captured using Microsoft Excel 2007 to generate frequencies and percentages. Data analysis was done using Statistical Package for Social Science (SPSS) version 11.0.0 for windows.

Results

Table 1: Demographic characteristics of Adolescents, Accra Ghana

Characteristics	Frequency	Percentage
Age		
15-19yrs	208	83.2
20-25yrs	42	16.8
Form		
1	46	18.4
2	69	27.6
3	135	54.0
Sex		
Male	125	50.0
Female	125	50.0
Marital Status		
Married	34	13.6
Not married	70	28.0
Have boyfriend	68	27.2
Have girlfriend	78	31.3

According to Table (1) the age distribution of the respondents was (83.2%) which was the majority between fifteen and nineteen years while only 16.8% were between the ages 20-25 years. 54% of the respondents forming the majority were in form three. 27.6% were in form two and 18.4% were in

form one. For their sex there was 50% males and 50% females. 31.3% said they have girlfriends, 27.2% said they have boyfriends, 28.0% said they are not married and 13.6% said they are married. This indicates that more males are into relationships than females.

Table 2: Knowledge of respondents in the study to the questionnaire		
Characteristics	Frequency	Percentage
Sex Education		
Yes	230	92.0
No	20	8.0
Source of Sex Education		
Peers	83	33.2
Parents	83	33.2
Class teacher	78	31.2
Other	6	2.4
Source that gives more information on sex education		
Internet	56	22.4
Magazines	54	21.6
Films/ Movies	50	20
Friends/ peers	90	36.0
Sex with prostitute can result in STDs		
Yes	196	78.4
No	54	21.6
Other sexually transmitted disease respondents know apart from HIV/AIDS		
Gonorrhoea	154	61.6
Syphilis	93	37.2
Other	3	1.2
Can sexually transmitted diseases (STDs) lead to infertility		
Yes	194	77.6
No	56	22.4
Can condom use affect pleasure in sex		
Yes	183	73.2

No	67	26.8
Can a woman become pregnant from having sex once		
Yes	213	85.2
No	37	14.8
Possibility of a woman not becoming pregnant after having sex without condom		
Yes	175	70.0
No	75	30.0

The above table (2) indicates the knowledge distribution of sex education. From the results, majority of the respondent' have had sex education before. 92.0% of them said they have had sex education before whilst only 8.0 percent said they have not. 33.2% of respondents said they had sex education from their peers, 33.2% also said they had their sex education from their parents, 31.2% said from their class teacher whilst only 2.4% said they had their sex education from other sources. When students were asked about sources that gives more information on sex education, majority of them (36.0%) said friends or peers give more information on sex education. 22.4% said the internet, 21.6% said the magazines and 20.0% said films or movies. When respondents were asked whether one can get a sexually transmitted disease from having sex with a prostitute, 78.4% of them said yes and 21.6% of them said no. For respondents knowledge on sexually

transmitted diseases, 61.6% of them said gonorrhoea, 37.2% of them said syphilis and 1.2% of them mentioned other sexually transmitted diseases. Most of the respondents (77.6%) said yes when they were asked if sexually transmitted diseases can lead to infertility while 22.4% said no. this implies majority of them have knowledge about effect of sexually transmitted diseases. Majority (73.2%) of respondents said yes whilst 26.8% said no. This indicates that most of the respondents have had sexual experience before. When respondents were asked if a woman can become pregnant from having sex once, 85.2% of the respondents said a woman can become pregnant from having sex once whilst 14.8% said no. from the analysis majority of the respondent have knowledge about sex and the consequences. 70% of the respondents said yes it is possible for a woman not to get pregnant after having sex without a condom whilst 30.0% said no it is not possible.

Table 3: Scores on attitude and protection self-efficacy of respondents		
At what age did you first have sex		
Below 12yrs	64	25.6
13-18yrs	123	49.2
Above 18yrs	28	11.2
None	35	14.0
What led you into having sex		
Pressure from friends	62	24.8
Fell in love	102	40.8
Wanted money for personal needs	36	14.4
Was forced(raped)	28	11.2
For favours	15	6
Other	7	2.8
How many sexual partners do you have or have had		
One	98	39.2
More than one	105	42.0
None	47	18.8
How do you protect yourself during sex		
Use condom	90	36.0
Vaginal foaming tablet	40	16.0
Pill	37	14.8
Intra Uterine Device	3	1.2
None of the above	80	32.0
How often do you use condom		
Always	64	25.6
Sometimes	103	41.2
Never	83	33.2

How many sexual partners do you have or have had		
One	98	39.2
More than one	105	42.0
None	47	18.8
Which of the following do you practice		
Oral sex	62	24.8
Anal sex	44	17.6
Vaginal sex	79	31.6
Homosexuality	2	0.8
Lesbianism	3	1.2
Kissing	60	24.0
which of the following has happened to you before		
Sore or blisters on the genital organ	26	10.4
Smelling whitish discharge from genital organ	16	6.4
Itching of the genital organ	31	12.4
All of the above	8	3.2
None of the above	169	67.6

Table (3) shows the age at which respondents, who have had sex before, first had sex. Majority of those who have had sex before (49.2%), said they first had sex when they were between the ages of thirteen (13) and eighteen (18) years. Amazingly, 25.6% of the respondents said they first had sex when they were below twelve (12) years, 11.2% said they first had sex when they were above eighteen (18) years. However, 14.0% said they have not had sex before. When the respondents were asked what led them into having sex, 40.8% said they had sex because they fell in love, 24.8% said it was due to pressure from friends, 14.4% said they had sex because they wanted money for their personal needs, 11.2% said they were raped, 6% said they had sex so they could gain favor and 2.8% said they had sex for other reasons. 42.0% of respondents said they have more than one sexual partners, 39.2% said they have only one sex partner and 18.8% said they do not have any sexual partner. The results show that majority of the students are sexually active. 36.0% of those who have sex said they use condom to protect themselves, 16.0% of them said they use vaginal foaming tablet, 14.8% said they use pill and 1.2% said they use intra uterine device to protect themselves. However 32.0% of them said they use none of these. Out of the 31.7% some of them have not had sex before and others do have sex but do not protect themselves with these. They may use other means for protecting themselves.

When the respondents were asked how often they use condoms, 41.2% said they sometimes use it, 25.6% said they always use it and 33.2% said they never use condoms. Comparing this result with results in table 03 and figure 15, it can be noticed that the 33.2% of those who said they never use any of the protections account for those who never use condoms. When the respondents were asked how many sexual partners they have, 42.0% said they have more than one sexual partners, 39.2% said they have only one sex partner and 18.8% said they do not have any sexual partner. The results show that majority of the students are sexually active. 31.6% of those who have sex said they practice vaginal sex, 24.8% said they practice oral sex, 24.0% said they practice kissing, 17.6% said they practice anal sex, 1.2% said they practice lesbianism and only two pupils (0.8%) said they practice homosexuality. Majority (67.6%) said they have not had any genital problems before. However, 10.4% of the respondents said they have had sore or blisters on their genital organ before, 12.4% said they have had itches of the genital organ, 6.4% said they have had smelling whitish discharge from their genital organ before and 3.2% of the respondents said they have had sore or blisters on their genital organs, smelling whitish discharge from their genital organs and itching of the genital organ.

Table 4: Cross tabulation: Sex education and age of first sex					
		At what age did you first have sex			
		below 12yrs	13-18yrs	above 18yrs	None
Have you ever had sex education before	Yes	64	123	28	3
	No	1	3	1	5

Table (4) shows that, 123 respondents who have had sex education first had sex between ages, thirteen and eighteen. 64 of the respondents who have sex education first had sex below twelve years, 13 first had sex when they were above eighteen years and 28 had not have sex before. However, only one of those who have not had any sex education before first had

sex at the age below twelve years . 3 of them first had sex between ages thirteen and eighteen and 5 of those who have never had sex education have never had sex. There was a significant difference between those who have sex education and the age at which they first had sex. This indicate that sex education has influence on the age at which respondents had sex

Table 5: Cross tabulation: Sex education and Means of protection during sex

		How do you protect yourself during sex				
		Use condom	Vaginal foaming tablet	Pill	Intra Uterine Device	None of the above
Have you ever had sex education before	Yes	90	40	37	3	80
	No	0	2	3	0	5

Table (5) shows that, 90 respondents who have had sex education protect themselves with condoms when having sex. 40 of the respondents who have sex education protect themselves with vaginal foaming tablet when having sex, 37 use pill in protecting themselves when having sex, 3 uses Intra Uterine Device and 80 do not use any of the above. However, none of those who have not had any sex education before uses condom when having sex. 2 of them protect themselves with vaginal foaming tablet, 3 use pill in protecting themselves when having sex, none

of those who had not had sex education before uses Intra Uterine Device and 5 of those who have never had sex education have never used any of the above mentioned. There was no significant difference between those who have sex education and how respondents protect themselves during sexual intercourse. This indicate that sex education has no influence on the how respondents protect themselves when having sex.

Table 6: Cross tabulation: Means of protection during sex and record of been pregnant before or having impregnated someone

		Have you been pregnant before or have you impregnated someone	
		Yes	No
How do you protect yourself during sex	Use condom	34	56
	Vaginal foaming tablet	20	20
	Pill	8	29
	Intra Uterine Device	2	1
	None of the above	10	70

Table (6) shows that, 34 respondents who protect themselves with condoms when having sex have been pregnant or impregnated someone before. 20 of the respondents who protect themselves with vaginal foaming tablet when having sex have been pregnant or impregnated someone before, 8 of the respondents who use pill in protecting themselves when having sex have been pregnant or impregnated someone before, 2 of the respondent who uses Intra Uterine Device has been impregnated before and 10 who do not use any of the above have been pregnant or impregnated someone before. However, 56 of those who use condom when having sex have not been impregnated or impregnated someone before. 20 of them who protect themselves with vaginal foaming

tablet have not been pregnant or impregnated someone before, 29 of those who use pill in protecting themselves when having sex have not been pregnant or impregnated someone before, 1 of the respondent who uses Intra Uterine Device has not been pregnant or impregnated someone before and 70 of those who have never used any of the above mentioned have not been pregnant or impregnated someone before. There is a significant difference between protecting themselves during sexual intercourse and the fact that they have been pregnant or impregnated someone before. This indicate that some of the contraceptives used are not secured to prevent pregnancies whilst others have 50-50 chance.

Table 7: Cross tabulation: sex education before and been pregnant before or having you impregnated someone			
		Have you been pregnant before or have you impregnated someone	
		Yes	No
Have you ever had sex education before	Yes	86	164
	No	1	3

Table (7) shows that, 86 respondents who have had sex education before have been pregnant or impregnated someone before and 164 of the respondents who protect have had sex education before have not been pregnant or impregnated someone before. However, 1 of those who have not had sex education before have been impregnated or impregnated someone before and 3 of them who have never had sex education before have not been pregnant or impregnated someone before. There is a significant difference between sex education and the fact that they have been pregnant or impregnated someone before. This indicate that individuals who have had sex education stand a lower risk of getting pregnant or impregnating someone.

Discussion

From the results, a total of 250 students from the second cycle institutions took part in the study with a 50: 50 male to female ratio. The age distribution of the respondents was 83.2% for those between fifteen and nineteen years and this formed the majority group. Only 16.8% were between the ages of 20-25years. As much as 54% of the respondents were in their final (form 3) year. 31.3% of the final year students had girlfriends, 27.2% had boyfriends 28.0% were not married and 13.6% were married. This indicates that more males are into relationships that females.

Concerning knowledge on sex education, a very high percentage (92.0%) of respondents claims to have knowledge about sex according to Table (2). About thirty (33.2%) of the respondents stated that they acquire this education from their peers and parents while 31.2% of them acquiring the knowledge from their class teachers. From the results it was realized that the most informative source of sex education is from peers and friends. Knowledge acquired from movies and films was the least 20.0%.

With mode of transmission of sexually transmitted disease 78.4% were aware that one can contract an STD from having sex with a commercial sex worker (prostitute) and 21.6% were not aware. This indicates

that a good number of respondents had good knowledge on modes of transmission of STD and prostitutes are source of STI. The majority (61.6%) of respondents knew of Gonorrhoea as a STDs apart from HIV/AIDs whilst 1.2% of them knew other STDs apart from HIV and gonorrhoea. This means that most respondents are aware of HIV/ AIDs and other STDs (7). More than half (77.6%) of respondents are aware that STDs infection can lead to infertility with only 22.4% of them having no knowledge. This knowledge on STI's will make respondents very careful when engaging in unprotected sexual activities (8).

Condom use is one of important means of preventing transmission of STI and pregnancy. Majority (73.2%) of respondents say condom use does have an effect on pleasure during sex whilst 26.8% think otherwise. This result is similar to s studies by name of authors (16) that condom use does affect pleasure in sex. Most (85.2%) respondents stated that a woman can get pregnant from having sex once whilst 14.2% did not agree to it. About 70.0% of respondent stated that a woman cannot get pregnant after having sex without condom. These results imply that most respondents are well informed on issues relating to sex.

About 49.2% of the youth who were part of this study had sex when they were between the ages of 13 and 18 years. As shown in table 4, 123 out of 250 respondents who had sex education had sex between ages of 13 and 18. 28 first had sex when they were above eighteen years and 13 had not have sex before. Only 11.2% first had sex when they were above 18years out of which 27 had sex education. 25.6% of respondents claim to have had sex when they were below 12 years and 63 of these respondents had sex education. In a similar study by (14) 51% of students reported initiating sexual intercourse between ages 15 and 19 whilst 6.6% first had sex before age 13. There was a significant difference between those who have sex education and the age at which they first had sex.

This means that sex education do have an influence on the age at which adolescents have sex.

Out of those who had sex 31.6% practiced vaginal sex, 24.8% engage in oral sex and 17.6% engage in anal sex. These findings can be supported by a similar study conducted by (7), 55% reported ever engaging in vaginal intercourse; 49% engage in oral sex and 11% engage in anal sex. 24% of respondent engage in kissing, 1.6% engage in lesbianism whilst only 0.8% practices homosexuality.

40.8% of respondents said they had sex because they were in love and only 2.8% said they were led to have sex because of some other reason. 42.0% of respondents have more than one sexual partner, 39.2% had one and 18.8% had none. Majority of respondents use condom during sexual intercourse to protect themselves from STI and unwanted pregnancy with only 1.2% of them using Intra uterine device (IUD) as a means of preventing unwanted pregnancy. Out of those who use condom 41.2% use it sometimes whilst 25.6% uses it always. 33.2% does not use condom during sex. This means that most respondents are aware of the dangers in having unprotected sex which can result in unplanned or unwanted pregnancies and STIs. 67.6% claim they have never seen or experience any symptoms of STIs.

On the use of condoms and other contraceptives, 90 respondents who have had sex education protect themselves with condoms when having sex and 40 vaginal foaming tablet. 37 use pill in protecting themselves, 3 uses Intra Uterine Device and 80 do not use any of the above. However, none of those who have not had any sex education before uses condom when having sex. 2 of them protect themselves with vaginal foaming tablet and 3 use pill. None of those who had not had sex education before uses Intra Uterine Device and 5 never used any of the above mentioned. This is depicted in table 6. There was no significant difference between those who have sex education and how respondents protect themselves during sexual intercourse. This indicate that sex education has no influence on how respondents protect themselves when having sex.

Among those who protect themselves with condoms when having sex, 34 have been pregnant or impregnated someone before. Twenty of the

respondents who protect themselves with vaginal foaming tablet when having sex have been pregnant or have impregnated someone. Eight of the respondents who use pill in protecting themselves when having sex have been pregnant or impregnated someone before. Only two of the respondents who use Intra Uterine Device have been impregnated before and 10 who do not use any of the above have been pregnant or impregnated someone before. However, 56 of those who use condom when having sex have not been impregnated or impregnated someone before. Twenty of them who protect themselves with vaginal foaming tablet have not been pregnant or impregnated someone before while 29 of those who use pill in protecting themselves when having sex have not been pregnant or impregnated someone before. One of the respondent who uses Intra Uterine Device has not been pregnant or impregnated someone before and 70 of those who have never used any of the above mentioned have not been pregnant or impregnated someone before. There is a significant difference between protecting themselves during sexual intercourse and the fact that they have been pregnant or impregnated someone before. This indicate that some of the contraceptives used are not secured to prevent pregnancies whilst others have equal chance of preventing pregnancies.

Eighty-six respondents who have had sex education before have been pregnant or impregnated someone. Hundred and sixty-four of the respondents who protect themselves have had sex education before and have not been pregnant or impregnated someone before. However, 1 of those who have not had sex education before have been impregnated or impregnated someone before and 3 of them who have never had sex education before have not been pregnant or impregnated someone before. There is a significant difference between sex education and the fact that they have been pregnant or impregnated someone before. This indicate that individuals who have had sex education stand a lower risk of getting pregnant or impregnating someone.

From the results, sex education does not really have an effect on adolescent sexual behaviors. Knowledge on sexually transmitted diseases did not reflect on how and when adolescents have sex. It is highly recommended that sex education should be enforced by all stakeholders to ensure and secure the safety of the youth.

[17] http://web.archive.org/web/20070926084225/http://www.cdc.gov/HealthyYouth/YRBS/pdf/trends/2005_YRBS_Sexual_Behaviors.pdf. Retrieved 2007-05-25.

Reference

- [1] Ghana Statistical Service, 1993 Ghana Demographic and Health Survey, Accra, Ghana:
- [2] Ghana Health Service, HIV Sentinel Survey 2002, Accra, Ghana: Ministry of Health, 2003.
- [3] Mensa-Bonsu HJAN, AIDS and the Ghana legal system, Health Transition Review, 1995, 5(Suppl.):279-292.
- [4] Ankomah A and Ford N, Pre-marital sexual behaviour and its impact for HIV prevention in Ghana, Occasional Paper, Exeter, UK: Institute of Population Studies, University of Exeter, 1993,
- [5] Family Health International and Research International, Behavioural Surveillance Survey, Ghana, 2000, Accra, Ghana: National AIDS Control Programme, Ministry of Health, 2001.
- [6] UNAIDS, 2004 Report on the Global AIDS Epidemic, July 2004. UNAIDS Ghana Country Page, <http://www.unaids.org/en/geographical+area/by+country/ghana.asp>.
- [7] Grunbaum JA et al. Prevalence of health risk behaviors among Asian American/Pacific Islander high school students. *J Adolesc Health* 2000; 27:322-30.
- [8] 5- Saewyc EM et al. Sexual intercourse, abuse and pregnancy among adolescent women: does sexual orientation make a difference? *Fam Plann Perspect* 1999;31:127-31.
- [9] 6- Michael RT et al. Sex in America: A Definitive Survey. Boston: Little, Brown, 1994.
- [10] Sex Education in America.(Washington, DC: National Public Radio, Henry J. Kaiser Family Foundation, and Kennedy School of Government, 2004), p. 5.
- [11] Gates GJ, Sonenstein FL. Heterosexual genital sexual activity among adolescent males, 1988 and 1995. *Fam Plann Perspect* 2000; 32:295-7, 304.
- [12] UNAIDS, Youth and HIV/AIDS: Opportunity in Crisis, 2002.
- [13] "National Youth Risk Behavior Survey: 1991-2005" (PDF). U.S. Department of Health and Human Services: Centers for Control and Prevention. Archived from the original on 2007-09-26.
- [14] Rosenthal SL *et al.* Sexual initiation: predictors and developmental trends. *Sex Transm Dis* 2001; 28:527-32.
- [15] Jordan TR *et al.* Junior high school students' perceptions regarding nonconsensual sexual behavior. *J Sch Health* 1998; 68:289-96.
- [16] Randolph, M. E., Pinkerton, S. D., Bogart, L. M. (2007). Sexual Pleasure and Condom Use Heather Cecil, and Paul R. Abramson, Center for AIDS Intervention Research, Department of Psychiatry & Behavioral Medicine, Medical College of Wisconsin, Milwaukee, WI, USA.