

Original Research Article

## Knowledge and Practice of Safe Sex among In-School and Out of School Adolescents in Plateau State, North Central Nigeria

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### ABSTRACT

**Background:** Adolescence represents one of the critical transitions in lifespan characterized by tremendous pace in growth, development and acquisition of secondary characteristics that occurs between the age 10-19years. Adolescents have been found to be at a high risk for most of the negative consequences ascribed to unsafe sexual practice, such as Sexually Transmitted Infections and unwanted pregnancy. Hence, this study was conducted to assess the level of knowledge and practice of safe sex amongst in-school and out-of-school adolescents

**Methodology:** This was a comparative cross sectional study conducted among 138 in- school and out of school adolescent respectively using quantitative method of data collection. SPSS version 20 was used for data analysis, adjusted odds ratio and 95% confidence interval were used as point and interval estimates respectively on the logistic model while a p-value of  $\leq 0.05$  was considered statistically significant.

**Results:** The mean age of the out of school adolescents was  $16.0 \pm 2.3$  years as compared to  $14.2 \pm 2.4$  years among their in- school counterpart with the level of practice of safe sex adjudged to be good among 8(47.1%) and 40 (47.6%) of the respondents in school and those out of school respectively ( $\chi^2 = 0.002$ ;  $p = 0.966$ )

**Conclusion:** The study has brought to light the need to constantly provide adolescents either in or out of school with relevant information on safe sex through appropriate channels in order to improve their level of knowledge and practice of sex.

**Keywords:** Knowledge, Practice, Safe sex, Adolescents

### INTRODUCTION

Adolescence represents one of the critical transitions in lifespan characterized by tremendous pace in growth, development and acquisition of secondary characteristics that occurs between the age 10-19 years. [1]

Adolescents have been found to be at a high risk for most of the negative consequences ascribed to unsafe sexual practice, such as Sexually Transmitted Infections (STIs) including Human Immunodeficiency Virus (HIV) and unwanted pregnancy. [2] Early

sexual debut has been implicated in lengthening the period of possible exposure to unwanted pregnancies and STIs with unsafe sex ranking second most important cause of disability and death in the world's poorest communities and 9<sup>th</sup> in developed countries.<sup>[3,4]</sup> Surveys conducted on sexual behaviours of Nigerian adolescents revealed that 22.1% of males and 46.2% females had already attained coitarche with the use of condoms in last sexual encounters among those with multiple sexual partners reportedly low.<sup>[5]</sup> This trend is worse in other developing countries especially in the rural and peri-urban areas thereby making it an imposing problem that needs to be resolved.<sup>[5]</sup> The knowledge of safe sexual practices amongst adolescents is vital towards shaping their perception, attitudes and behaviours towards sexual relationship.<sup>[6]</sup> Hence, this study was conducted to assess the level of knowledge and practice of safe sex amongst in-school and out-of-school adolescents with the view providing valuable contributions to instituting positive change.

## METHODOLOGY

### STUDY AREA

The study was conducted in Angwan Rukuba community of Naraguta B ward of Jos North Local Government Area of Plateau State. This is a rapidly developing multi-ethnic urban community within Jos metropolis with an estimated population of approximately 5,000 people.<sup>[7]</sup> In-school adolescents of Baptist Science Grammar School where were sampled in this study while the comparative out-of-school adolescents were recruited from business premises or vocational training centres within the same community during the designed school hours of 8:00 and to 4:00 pm. The Baptist Science Grammar School was founded by First Baptist Church in the year 1995 and currently has 15 classrooms with an average of 450 students.

### STUDY POPULATION

The study population comprised of in-school and out-of-school adolescents within

Angwan Rukuba community of Naraguta B ward of Jos North Local Government Area of Plateau State.

### INCLUSION CRITERIA

The adolescent students of Baptist Science Grammar School between 10-19 years who are officially registered in the school, not married and are permanent residents of Angwan Rukuba community for a minimum of one (1) year who have consented or assented (those below 18years) and whose parents have consented (those below 18years) to participate in the study were included. While out-of-school adolescents who were within the age range of 10-19 years permanently residing in the community, not married and attached a designated business premises or vocational training centres within the same community whose hours of operation ranged between 8:00 am to 4:00 pm daily who consented or assented (those below 18years) and whose parents have consented (those below 18years) to participate in the study were included

### STUDY DESIGN

A comparative cross sectional study employed to determine the knowledge and practice of safe sex amongst in-school and out-of-school adolescents between January and February 2017 using quantitative method of data collection.

### SAMPLE SIZE ESTIMATION

The sample size for this study was determined using the appropriate sample size determination formula for comparing two independent proportions.<sup>[8]</sup> Where n is the minimum sample size, Z is the standard normal deviate at 95% confidence interval (1.96), q is the complementary probabilities of the independent proportions ( $1 - p$ ), d is the difference between the two independents proportions and  $p_1$  is the proportion in-school adolescents who had more than one sexual partners which was 0.13 and  $p_2$  is the proportion out of school adolescence who had more than one sexual partners which was 0.22 from a previous similar study.<sup>[9]</sup> Number of sexual partners was used as one of the indices of practices of safe sex This

gave a minimum sample size of 138 per group after catering for non, poor and incomplete responses.

### **SAMPLING TECHNIQUE**

A multi stage approach to sampling was used in this study; Jos North was selected out of the 17 Local Government Areas in the state using simple random sampling technique by balloting. Following which Naraguta B ward was selected from the list of 20 wards in Jos North LGAs using simple random sampling by balloting. Thereafter, Angwan Rukuba community was selected from the list of 28 communities in Naraguta B Ward of Jos North Local Government Area using simple random sampling technique by balloting. Then, a list of 234 of in-school adolescent who had met the inclusion criteria was made and disaggregated by arms of the school following short interview session with the students in addition to reviews of school documents. Thereafter, proportion to size technique was applied to determine the number of respondents to be selected per arm of the school by the dividing the number of students in each arm over the total number of students that met the inclusion criteria in the school multiplied by the sample size which gave a total of 26, 16, 19, 26, 29 and 36 students to be sampled in arms 1, 2, 3, 4, 5, and 6 of the school respectively. Following which a separate list of the students who had met the inclusion criteria in each arm was made with numbers allocated to each student on the list and computer generated table of random number was used to select the appropriate number of student in each arm for the study. However, for the out of school adolescents, a total number of 74 places of business and vocational centres were mapped and identified consisting of 15 hairdressing salons, 10 automobile mechanic workshops, 10 food stalls, 5 computer business centres, 25 market stalls, 5 provision stores and 4 cobbler stalls with a total of 198 eligible out of school adolescent. Similarly, proportion to size technique was used to determine the number of out of school adolescents to be

selected per places of business then simple random sampling technique by balloting was employed to pick the appropriate number respondents from each of the identified business places for the study.

### **DATA COLLECTION**

An adapted semi-structured interviewer administered questionnaires was used for data collection. [10] The data collection instrument had three sections was used to collect information on the socio-demographic characteristics of the respondents, knowledge of safe sex as well as information on sexual practices. The questionnaire was designed in English language, translated to Hausa language and back translated to English language for the purpose of the out of school respondent who could all speak Hausa as to ensure validity of the content. Three research assistants were trained on the content and method of administration of questionnaire prior to the commencement of the study by the research team lead following which the data collection instrument was pretested among both in and out of school adolescents in Lamingo community of Jos North Local Government Area. Ethical clearance was obtained from Jos University Teaching Hospital institutional health research ethical committee. Written and verbal informed consents were obtained from all the respondents above 18 years of age while ascent and written informed consent were obtained from under age respondents and their parents or care givers respectively. Assurances of confidentiality and anonymity of information provided by the respondents were assured and maintained.

### **GRADING OF RESPONSE**

Understanding of the concept of safe sex was adjudged as good if respondents provided information with similar contents as sexual activity in which precautionary measures such as regular screening for sexually transmittable infections (STIs) including HIV and making use of physical barriers like condoms to reduce the risk of

unintended pregnancy as well as sexually transmitted infections that is be free of discrimination, coercion and violence. [6]

Understand of the concept of negotiation for sex was adjudged as good if the responses of the adolescents had similar content as two partners working out a solution and attuning their personal intentions clearly regarding their sexual activity inclusive of reciprocity that is different from general communication. [11]

A total of 5 stem questions were used to assess the respondents' knowledge of safe sex with maximum possible responses of 14 out of which 10 were correct. One mark was allocated to every correct response while zero mark to the incorrect ones giving a maximum attainable score of 10 marks. A percentile graph was then applied to the scores of the respondents and scores responding to the 50<sup>th</sup> percentile and above were graded as good knowledge while those below the 50<sup>th</sup> percentile as poor knowledge respectively.

The practice of safe sex among the sexually active respondents was graded as good if the respondents gave favourable responses to the component safe sexual practice questions of having only one sexual partners within the last 12 months, use of condoms during sex act, engagement in screening for HIV/STIs within the last 6 months and negotiation of sex with partner.

## DATA ANALYSIS

The data obtained were processed and analyzed using SPSS version 20 where socio-demographic characteristics of the respondents were expressed in frequency and percentage. Mean  $\pm$  standard deviation were used as summary indices for age and knowledge of safe sex of the respondents. Adjusted odds ratio was used as point estimates in the logistic regression model having held all other factors in the model constant while 95% confidence interval was used as the interval estimate. A probability value of less than 0.05 was considered statistically significant in this study.

## RESULTS

The age distribution of the respondents varied between the groups as 93 (67.4%) of those in school were 15 years and below as compared to 52 (37.7%) of those out of school fell within the same age group. Further the mean age the out of school adolescents was  $16.0 \pm 2.3$  years as compared to  $14.2 \pm 2.4$  years among their in-school counterpart. Furthermore, more than half of the out-of-school adolescents were males 81 (58.7%) while less than half (49.3%) of the in-school group were males. The mean age of sexual debut among the out of school respondents was  $12.8 \pm 2.5$  years which was lower than  $14.6 \pm 2.0$  years recorded among those in school. See [Table 1](#).

Similar level of aware of safe sex was found among the two categories of respondents as 129 (93.5%) and 125 (90.6%) of the in-school and out of school adolescents had heard of safe sex respectively. The understanding of the concept of safe sex was assessed and statistically significant variation was observed between the two groups as good level of understanding was found among 62 (44.9%) of the in-school adolescent while same was found among only 38 (27.5%) of the out of school adolescents. Ability to negotiate sex is an important skill essential in the adolescent period and the understanding of this concept was assessed in this study with only 20 (14.5%) of the in-school adolescents adjudged as having good understanding of the concept of negotiation of sex while good understating of this concept was found among slightly higher proportions (23.9%) of the out of school respondents. This variation was found to be statistically significant ( $\chi^2 = 3.947$ ;  $p = 0.047$ ). Importantly, the overall level of knowledge of the respondents was found to be similar between the two groups as 47 (34.1%) and 45 (32.6%) of the adolescents were found to have good knowledge of sex safe in the in- school and out of schools groups respectively ( $\chi^2 = 0.065$ ;  $p = 0.798$ ). See [Table 2](#).

**Table 1: Socio-demographic characteristics of the respondents**

VARIABLE	IN SCHOOL Freq. (%)	OUT OF SCHOOL Freq.(%)
Age Group (Years)		
≤15	93 (67.4)	52 (37.7)
16 – 19	45 (32.6)	86 (62.3)
Total	138 (100.0)	138 (100.0)
Mean ± SD	14.2 ± 2.4 years	16.0 ± 2.3 years
Sex		
Male	68 (49.3)	81 (58.7)
Female	70 (50.7)	57 (41.3)
Total	138 (100.0)	138 (100.0)
Family type		
Monogamous	117 (84.8)	95 (68.8)
Polygamous	21 (15.2)	43 (31.2)
Total	138 (100.0)	138 (100.0)
Age at sexual debut		
Mean ± SD	14.6 ± 2.0 years	12.8 ± 2.5 years

SD = Standard Deviation,

**Table 2: Knowledge of safe sex among the respondents**

LEVEL OF KNOWLEDGE	IN-SCHOOL Freq. (%)	OUT-OF-SCHOOL Freq. (%)	$\chi^2$	P - value
Awareness of safe sex				
Yes	129 (93.5)	125 (90.6)	0.790	0.374
No	9 (6.5)	13 (9.4)		
Total	138 (100.0)	138 (100.0)		
Understanding of the concept of safe sex				
Good	62 (44.9)	38 (27.5)	9.033	0.003
Poor	76 (55.1)	100 (72.5)		
Total	138 (100.0)	138 (100.0)		
Awareness of Methods of safe sex*				
Regular HIV screening	38 (27.5)	36 (26.1)	0.074	0.786
Use of condoms	72 (52.2)	93 (67.4)	6.646	0.010
Abstinence	66 (47.8)	54 (39.1)	2.123	0.145
Faithfulness to one partner	40 (29.0)	33 (23.9)	0.913	0.339
Understanding of the concept negotiation for sex				
Good	20 (14.5)	33 (23.9)	3.947	0.047
Poor	118 (85.5)	105 (76.1)		
Total	138 (100.0)	138 (100.0)		
Level of knowledge				
Poor	91 (65.9)	93 (67.4)	0.065	0.798
Good	47 (34.1)	45 (32.6)		
Total	138(100.0)	138(100.0)		
Mean ± SD	6.1. ± 3.5 out of 10	6.0 ± 3.1 out of 10		
Median (IQR)	6 (4 – 8)	6 (4 – 8)	0.0002**	0.990

\* = responses were elicited as yes or no for each of the questions \*\*= Man Whitney U test

**Table 3: Practice of Safe Sex among the respondents**

PRACTICE	IN SCHOOL Freq. (%)	OUT OF SCHOOL Freq. (%)	$\chi^2$	P - value
Sexual debut				
Yes	17 (12.3)	84 (60.9)	70.097	< 0.001
No	121 (87.7)	54 (39.1)		
Total	138 (100.0)	138 (100.0)		
Current sexual status				
Active	13 (76.5)	74 (88.1)	0.775***	0.379
Not active	4 (23.5)	10 (11.9)		
Total	17 (100.0)	84 (100.0)		
Sexual partners within the last 12 month				
One	15 (88.2)	73 (86.9)	0.000***	1.000
Two or more	2 (11.8)	11 (13.1)		
Total	17 (100.0)	84 (100.0)		
Negotiation of sex in the last sexual act				
Yes	9 (52.9)	70 (83.3)	5.985***	0.014
No	8 (47.1)	14 (16.7)		
Total	17 (100.0)	84 (100.0)		
Use of Condom in the last sexual act				
Yes	10 (58.8)	65 (77.4)	1.669***	0.196
No	7 (41.2)	19 (22.6)		
Level of practice of safe sex				
Poor	9 (52.9)	44 (52.4)	0.002	0.966
Good	8 (47.1)	40 (47.6)		
Total	17(100.0)	84 (100.0)		

\*\*\* = Yates corrected chi square

**Table 4: Logistic Regression of factor influencing practice of safe sex**

Factors	Odds Ratio	95% Confidence Interval	P – value
Age Group (years)			
16 – 19	1.6	0.778 – 3.169	0.208
< 15	1	-	-
SEX			
Male	1.4	0.708 - 2.779	0.332
Female	1	-	-
Family Type			
Polygamous	0.5	0.213 – 1.019	0.056
Monogamous	1	-	-
Category of respondents			
Out of school	30.1	10.876 – 83.219	< 0.001
In-school	1	-	-
Understanding of the Concept of Sexual Negotiation			
Good	3.0	1.246 – 7.531	0.015
Poor	1	-	-
Understanding of the Concept of Safe Sex			
Good	1.8	0.808 – 3.821	0.154
Poor	1	-	-
Level of Knowledge			
Good	1.1	0.594 – 1.814	0.896
Poor	1	-	-

Odd Ratio = Adjusted Odds Ratio

Sexual debut among the respondents in the study revealed that more 84 (60.9%) of the out of school adolescents reported sexual debut when compared to the few 17 (12.3%) in - school counterparts reporting sexual experience ( $\chi^2 = 70.097$ ;  $p <0.001$ ). The respondents in the two groups were found to be comparable with regards to their current sexual status as 13 (76.5%) of the in-school adolescents with history of sexual debut were being sexually active within the last 12 months prior to the study while 74 (88.1%) of the sexual debutant among the out of school respondent affirmed to being sexually active. Similar trend was also observed with regards to the respondents' number of sexual partners within the last 12 month prior to the study, 88.2% and 86.9% of the in school and out of school respondents maintained only one sexual partner respectively. The practice of negotiating sex was found to be more among the out of school respondents when compared to those in-school ( $\chi^2 = 5.985$ ;  $p = 0.014$ ). In furtherance to this, the overall level of practice of safe sex was adjudged to be good among 8(47.1%) and 40 (47.6%) of the respondents presently in school and those out of school respectively ( $\chi^2 = 0.002$ ;  $p = 0.966$ ). See [Table 3](#)

The practice of safe sex can be influenced by a number factors both intrinsic and extrinsic, however in this

study, the odds of safe sex practice among those adjudged to have good understanding of the concept of negotiation of sex was 3 times the odds among those adjudged to have poor understanding (95% Confidence Interval = 1.246 -7.531;  $p = 0.015$ ) after being adjusted for other factors such as age, sex, family type and schooling status of the respondents. Furthermore, the odds of practice of safe sex among those out of school was found to 30.1 times the odds among those in-school (95% Confidence Interval = 10.876-83.219;  $p <0.001$ ) following adjustment for age, sex, type and schooling status. See [Table 4](#)

## DISCUSSION

Majority of the respondents in both in-school and out-of-school groups had heard of safe sex but this level of awareness did not translate into understanding of the concept of safe sex as it were. This level of awareness of safe sex observed in this study was corroborated with findings of another multi-country studies conducted in four sub Saharan African countries. [\[12\]](#) These observed similarities could be secondary to increased level of information sharing on prevention of STIs and HIV/AIDS targeted mostly at sexually active individual inclusive of adolescent as a result of the scourge of HIV/AIDS in the African continent. It is however important to state

that the content of such information should be made simple and adolescent friendly so that awareness can inform better understanding.

Knowledge of methods of safe sex is essential to its practices particular in the vulnerable period of adolescence surrounding by quest for sexual experimentation and curiosity. In furtherance to this, more than half of both in-school and out-of-school respondents respectively were aware of condom use as a method of safe sex while less than a third of adolescents in both groups knew of regular STI/HIV screening, fidelity to one uninfected partner and negotiating sex as being vital in the practice of safe sex. Furthermore, knowledge of sexual abstinence was low among these adolescent though slightly higher among the in-school group. These findings shared little or no similarities with what obtained in other studies conducted in Nigeria and other African countries. [12-14] Cultural and religious differences across strata and spheres within Nigeria and Africa as a continent could be responsible for the observed variations bringing to bear the importance of socio-cultural and religious contributions to sexuality. The overall level of knowledge of safe sex among the in-school and out of school respondents was found to be poor with just about a third of the adolescents in both groups being adjudged as having good knowledge. This was found to be in tandem with obtained in India but completely at variance with the finding of other studies conducted in Nigeria and Egypt. [13-15]

Variation existed in the number of sexual debutants between the in-school ad out of school respondent with majority of the in- school respondents having no sexual experience while more than half of out-of-school counterpart had debuted sex. The overall level of practice of safe sex among those sexually active was poor with less than half of the adolescents in both groups engaging in safe sexual practices. This is similar to the findings of other studies

conducted in Nigeria and four other sub-Saharan African countries. [12,14] This low level of practices of safe sex among adolescent regardless of their schooling status in this study and in other sub-Saharan African countries reiterates the needs to step up adolescent specific safe sexual practice awareness campaigns and youth friendly sexual practice interventions taking into consideration the peculiarities of the environment and socio-cultural context.

Majority of the sexually active adolescents both in and out of school had only one sexual partners within the last 12 months with more of the out of school respondents engaging in the use of condoms and sexual negotiation in their last sexual act as compared to the in-school respondents which is consistent with findings of other studies [13,14] The fact that more of the out of school adolescents engage in sex could be attributable to the possibilities of gifts and financial inducements from older men around them in exchange for sex as well as the economic dynamics in African in which transactional sex could be used to augment livelihood particularly among the poor out of school female adolescents.

The practice of safe sex in this study was found to be significantly influenced by understanding of the concepts of negotiation of sex and out of school status. However in other similar studies, age, lower class level for those in school, personal choices and sexual activeness were found to have significant influence on the practices of safe sex. [16-18]

## CONCLUSION

The study has brought to light the need to constantly provide adolescents either in or out of school with relevant information on safe sex through appropriate channels in order to improve their levels of knowledge and practice of sex. Importantly, empowerment of sexually active adolescents with skills to negotiate sex remains a vital tool to improving their practice of safe sex.

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