

## Awareness of Sexually Transmitted Infections (STIs) Amongst Secondary School Students in Edo State, Nigeria

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### ABSTRACT

Secondary school students may stand the risk of sexually transmitted infection (STI) because of a possible minimal knowledge of the dynamics of STI at this early reproductive age. Aim of study: to assess awareness of sexually transmitted infection (STI) amongst Secondary School Students in Edo state. **Design:** descriptive cross-sectional study. Setting: some secondary schools in Edo State. **Participants:** A multistage sampling technique was used to study 480 Students from Secondary Schools in Edo state. **Results:** The mean ages were  $15.24 \pm 1.65$  and  $15.11 \pm 1.77$  for males and females respectively whereas the percentage of Schools with, all boys, all girls and mixed were 28.6%, 25.5% and 45.9% respectively. The participants demonstrated a good knowledge of association between reproductive tract infection and sexual intercourse (88.5%); and (378) 81.8 % of the respondents opined that the use of condoms were protective against most sexually transmitted infections, nonetheless most of the respondents; 400 (86.6%) were of the view that only penetrative sex could lead to STI. The percentage of respondents with symptoms of STI within the last six months was (101) 21.9%. **Conclusion and recommendations:** we recommend that sexual education should be made conspicuous in the curriculum of Secondary Schools vis-à-vis frequent organization of workshops for such Students. This will create an avenue for them to understand the dynamics of sexually transmitted disease with an overall reduction in its incidence.

**Key words:** Secondary School, Students, Sexually Transmitted Disease, Intercourse

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## INTRODUCTION

Sexually transmitted infections (STIs) are bacterial, fungal, viral or ectoparasitic infections that are communicable by sexual contact and they have been classified as the major causes of illnesses in the world especially in the developing countries.<sup>1,2,3</sup> Adolescent are at particularly high risk for STIs due to a combination of behavioral, biological and social factors. Behaviorally adolescent are more likely to engage in higher risk sexual behaviors such as concurrent partners or sex without a condom.<sup>4</sup> Socially adolescent often lack access to sexual health services or do not pursue STI testing due to lack of confidentiality concerns.<sup>5</sup>

The adolescence and young people make up 31% of the entire population of Nigeria. Adolescent between the ages of 10-14 make up the largest proportion compared to other age groups<sup>6</sup>.

In Nigeria, Secondary education is sandwiched between the primary and tertiary education and most secondary school students are in the adolescent age groups with attendant problems such as unsafe sexual behavior such as low use of condoms and poor access to contraceptives.<sup>7, 8, 9</sup> Of significance is the outcome of their early sexual debut, in form of premarital sex, which invariably exposed them to unsafe sex, unintended pregnancy, as well as the risk of contracting sexually transmitted infections, including HIV/AIDS<sup>10</sup>.

Therefore, adolescent health and well-being would continue to remain significant for a long time to come. In 2008, it was documented that over 70 percent of the individuals aged between 10-19 live in the developing nations<sup>11</sup>. This implies that one in every five people in the world is an adolescent, and 85% of them live in developing countries<sup>10</sup>. Thus the academic community is continually initiating research efforts geared towards demystifying this developmental phase, which hitherto had in time past labeled as crisis period. For many reasons, adolescents are susceptible to a number of health challenges<sup>10</sup>.

The inexorable exuberance of the adolescent group of individual with sex and sex related matters may be complicated with limited knowledge of the dynamics of sexually transmitted disease. This study is therefore aimed at assessing the awareness of sexually transmitted infections amongst Secondary School Students in Edo state, Nigeria.

## **METHODOLOGY**

This cross-sectional study was conducted between May and July 2018 using a structured self-administered questionnaires administered to Senior Secondary School Students in Edo state. The Schools and the Students studied were selected by a multistage random sampling technique. Edo state is one of the 36 states of the Nigeria federal structure. It is located in the south-south geopolitical zone in the Niger Delta area and it is divided into three senatorial districts and has 18 local government areas with its administrative headquarters in Benin City.

### **Study Population**

The study population comprises Senior Secondary School (SS) students (SS1-3) of the three senatorial districts of Edo State. Currently from the state ministry of Education, the three senatorial districts have a total number of 315 Senior Secondary Schools with a total population 151,239 senior students (SS1-3), a breakdown of this population is as follows: Edo North senatorial district has 68 Senior Secondary Schools with a population 48,210, Edo Central senatorial district, 104 Senior Secondary Schools with a population 50, 413, Edo South senatorial district has 143 senior secondary schools with a population of 52,616. Each senatorial district has both single boys and single girls Senior Secondary Schools and mixed Senior Secondary Schools. Each class, (SS1-2) is made up of between 4 and 5 arms in each school while SS3 classes have 2-3 arms.

## Sample Size Determination

The sample size was calculated using the Leslie Fischer's Formula for the calculation of sample size in population >10,000

$n = Z^2 \cdot p \frac{1-P}{d^2}$  by considering the parameters, 95% confidence interval

(c.i) and 0.05 of margin of error effect and power of 80.0%.

Where n=Minimum sample size

z=the standard normal deviate usually set at 1.96 for 95%

confidence level usually a constant.

P= the proportion in the target population estimated to have the particular characteristics.

$$q = 1 - p$$

d=degree of precision or accuracy desired set at 5% i.e 0.05.

Substituting into the formula,

$$n = \frac{z^2 p q}{d^2}$$

Where  $z^2 = 1.962$

$$p = 0.52$$

$$d = 0.05$$

$$= \frac{1.962^2 \times 0.52 (1 - 0.52)}{0.05^2}$$

$$= \frac{1.962 \times 1.962 \times 0.52 (0.48)}{0.05 \times 0.05}$$

$$= \frac{0.9608212224}{0.0025} = 384.32$$

*approx 384*

Anticipating a response rate of 80% as the power, and adjustment of the sample size estimate to cover for non-response rate was made by dividing the sample size estimate with a factor  $f$ , i.e.  $n/f$ , where  $F$  was the estimated response rate, then the calculated sample size was

$$\frac{384}{0.80} = 480$$

Therefore, 480 questionnaires were distributed.

### Sampling Technique

A Multistage sampling technique was used. Simple random sampling technique was used to select 2 schools from the 3 senatorial districts among School with male and female Students or single sex Schools. In each of the school selected, only Students in the Senior Secondary School (SSS) were enrolled into the study.

Simple random sampling technique was employed to select two arms from each of the classes (SS1-3).

The class registers was used as a sampling frame. In the single sex schools, simple random sampling technique would be used to select eligible and consenting Students until the required number allotted to the selected arms in each (SSS1-3) has been obtained. Twelve Students were be recruited per arm making a total 24 students per class and 72 Students per school. In the mixed Schools, the class registers were initially stratified by sex into males and females before representative sample of each sex would be taken using simple random sampling technique for eligible and consenting students to obtain the required number allotted to the selected arms in each (SSS1-3).

### Collection Technique

Data collection in this study was done using pretested, self-administered structured questionnaires developed from a review of relevant literatures and interview of some

adolescents. All questions were written in English Language and pretested in similar School in Edo State. This was done to check for reliability and validity. The questionnaires were divided into seven sections (A-D) to obtain data on (a) the sociodemographic characteristics of students, (b) dynamics of sexually transmitted infections (c) symptoms of sexually transmitted infections (d) sources of treatment of sexually transmitted infection.

#### Ethical Considerations

Ethical clearance/certificate was obtained from the University of Benin, Research and Ethics Committee and a written permission to carry out this study were sought and obtained from the State Ministry of Education.

The School authorities and Students were assured of confidentiality in view of the intricacy and sensitivity of the questions contained in the questionnaires such as age of first sexual intercourse, number of partners and type of sexual practices. They were encouraged to answer the questions with utmost sincerity.

#### Statistical analysis

Results were presented as mean  $\pm$  s.e.m and percentages using statistical package for socio sciences SPSS version 21.0.

## RESULTS

**Table 1: Demographic characteristics of respondents**

Personal characteristics	Students	Percentage	Mean $\pm$ s.e.m
Gender			
Male	240	51.9	-
Female	222	48.1	-
Age			
10-15 (male)	106	22.9	15.24 $\pm$ 1.65
16-20 (female)	356	77.1	15.11 $\pm$ 1.77
Class			
SS1	163	35.3	-
SS2	217	47.0	-
SS3	82	17.7	-

Category of School			
All boys	132	28.6	-
All girls	118	25.5	-
Mixed	212	45.9	-

**Table 2: Dynamics of sexually transmitted infection**

Variable	Characteristics	Frequency (N)	(%)
Can somebody get reproductive tract infection from sexual intercourse	Correct response	409	88.5
	In-correct response	53	11.5
Can condom be used to prevent or reduce the chances of acquiring STDs	Correct response	378	81.8
	In-correct response	84	18.2
What are the chances of immediate post-coital use of antibiotics to prevent STIs.	Correct response	163	35.3
	In-correct response	299	64.7
Can you contract sexually transmitted infection without penetrative sex	Correct response	62	13.4
	In-correct response	400	86.6
Is oral sex always a safe form of sexual gratification	Correct response	100	21.6
	In-correct response	362	78.4

**Table 3. Symptoms of Sexually Transmitted Infection in the Last 6 Months**

Variable	Characteristics	Frequency (N=462)	Percentage (%)			
Symptoms of STIs	Yes	101	21.9			
	No	361	98.1			
Variable	Characteristics	Frequency	Percentage (%=100)	X <sup>2</sup>	df	P value
Symptoms of STDs respondents (N=101)	Male	54	53.5	0.119	1	0.730
	Female	47	46.5			
Penile/vaginal discharge (N=68)	Male	35	51.5	0.007	1	0.932
	Female	33	48.5			
Painful Penile/Vaginal Swelling (N=44)	Male	34	77.3	12.495	1	0.000
	Female	10	22.7			
Pains when passing Urine (N=50)	Male	37	74.0	10.93	1	0.001
	Female	13	26.0			
Sore near or on Penis/vaginal (N=37)	Male	28	75.7	9.072	1	0.003
	Female	9	24.3			
Groin swelling (N=21)	Male	17	81.0	7.414	1	0.006
	Female	4	19.0			
Lower Abdominal pain (N=59)	Male	23	39.0	4.555	1	0.033
	Female	36	61.0			

**Table 4 where respondent seek treatment for STIs**

Variable	Characteristics	Sex (%)		Total
		Male	Female	
Where do you normally obtain your treatment for STI	School Health facility	24.2	10.8	17.1
	Private clinic	47.5	64.9	55.8
	Patent medicine store	12.9	12.6	12.8
	Native Medication	4.2	4.5	4.3
	Self-Medication	11.3	7.2	9.3

## DISCUSSION

National data from Nigeria indicate that 30% of female and male adolescents are enrolled in Secondary Schools<sup>12</sup>. This indicates that approximately one third of adolescent are in the pool of Secondary Schools across the country. Studies have shown that the burden of risky behavior for the Secondary School Students in south west Nigeria is high.<sup>13</sup> Interestingly our study shows that more than half 409 (88.5%) of the respondents were knowledgeable on the fact that sexually transmitted diseases are transmitted mainly by sexual intercourse and 378 (81.8%) of the respondents knew correctly that reproductive tract infections can be prevented or reduced through the use of condoms (Table 2). However a large proportion 299 (64.7%) incorrectly thought that taking antibiotics after sex also reduced the chances of getting STIs and another high percentage of 86.6% incorrectly responded that sexually transmitted infections were only contracted by penetrative sex (Table 2). This indicates that their knowledge of the contribution of the external genitalia to the definition of sexually transmitted disease was poor. The external genitalia can be safe haven for ectoparasitic sexually transmitted disease. These erroneous responses are high enough to counteract the positive responses leading to a paradigm shift in a high incidence of sexually transmitted infections. This finding may be linked to the fast increase in the incidence of STIs worldwide with the youth and adolescent placed at a high risk<sup>14</sup>. In the United States, there is an estimated 15.3 million new cases of sexually transmitted infections each year and 3 million of which occur in people between the ages of 13-19 and one out of four sexually active teenagers reported a sexually transmitted infections every year.<sup>15</sup> other studies showed that 65.3% of adolescent are knowledgeable to the extent of indicating that STIs are caused by sexual intercourse.<sup>14</sup> in addition to the conventional sexual intercourse, oral sex has been Oral sex has been described as a common sexual behavior in humans.<sup>16,17,18</sup> A large



percentage of our study respondents opined that oral sex was a safe form of sexual gratification although this study was not deigned to elicit the reason while oral sex was taken as a safe form of sexual gratification amongst secondary school students in Edo state. However, possible reasons may be fear of pregnancy, dyspareunia and the risk of fear of contracting genital tract infections.

A hundred and one (21.9%) of the entire respondent reported symptoms associated with sexually transmitted diseases in the last six months with male and female distributions of 54 (53.5%) and 47(46.5%) respectively. Among the females, the commonest symptoms reported were lower abdominal pain (61.0%), and vaginal discharge, whereas among the males, all the symptoms except lower abdominal pain were highly reported. Significant association was found between sex and painful penile/vaginal swelling (table 3). The percentage of subjects who have had sexually transmitted disease is high bearing in mind that previous the Nigeria Demographic and Health Survey conducted on sexual behaviors of Nigerian Adolescents <sup>19</sup> showed that (15-19) half of the females (46.2%) and about a quarter of males (22.1%) of the Nigerian adolescent have engaged in sexual intercourse. This is further complicated by our finding which shows that 26.4% of our respondents who have had sexually transmitted diseases seek medical attention from patent medicine store, native medication and self-medication (table 4). This opens a fairly good percentage of our adolescent to drug resistant sexually transmitted infection.

## **CONCLUSION AND RECOMMENDATIONS**

we recommend that sexual education should be made conspicuous in the curriculum of secondary schools vis-à-vis frequent organization of workshops for mandatory attendance by the students.

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