
Sexually Transmitted Diseases: Knowledge and Misconception of Adolescents in Okpokwu Local Government Area, Benue State, North Central Nigeria.

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ABSTRACT

Background

The adolescent age is the period of sexual identity when adolescents make sense of their feeling and turn them into actions. This stage requires adequate knowledge of sexual behaviours so that adolescents will not rely on peer group for information. This is because of the far reaching effects it may have on them and the society at large due to misinformation and the consequences of the high risk sexual behaviours they may engage in like sexually transmitted infections (STI). This study therefore aims at accessing the knowledge and sources of information of STDs among adolescents in the Okpokwu local government area of Benue State, North central region of Nigeria.

Methodology

This was a prospective cross-sectional descriptive survey using a multistage sampling technique. A complete list of all the private and public secondary schools in Okpokwu LGA was obtained from the Ministry of Education and using systematic random sampling method, 3 private and 3 public secondary schools were chosen. A table of random numbers was employed to select a sample size of 272 respondents. Data was collected using a pretested self administered questionnaire.

Results

A total of 272 questionnaires were administered to (SS1), (SS2) and (SS3) students in the study area and in all 272 were retrieved representing 100% return rate. The study made use of tables and simple percentages to present the data retrieved from the field. Findings revealed that over 90% of adolescents in the study area were aware of sexually transmitted infections (STI). The

major source of information about STI was radio/Tv 85% and over 80% could name only one type of STI. The main sources of transmission of STI were unprotected sex (87.9%), needles and syringes (84.9%) and blood and blood products (62.5%); while the most frequently mentioned symptoms of STI were weight loss (77.9%) and painful micturition (73.5%). Overall most of the respondents (81.5%) had fair knowledge of STI.

Conclusion

The study suggests that mass enlightenment programmes in schools by government and other relevant agencies in the study area is key to adequate knowledge of STDs in the area.

Keywords: Sexually transmitted diseases, Adolescent, Knowledge, Nigeria.

Background study

Sexually transmitted infections (STIs) are spread primarily through person-to-person contact, although some of the pathogens that cause them, especially Human immunodeficiency virus (HIV) and syphilis can be transmitted vertically from mother to child during pregnancy and childbirth, and through blood products and tissue transfer^{1, 2}. Sexually transmitted infections (STIs) can be classified based on the causative organisms into: bacteria, viruses and parasites³⁻⁴.

Knowledge of other STIs apart from HIV/AIDS is low in the developing world^{9,10}. In Tanzania, the knowledge of STIs is very low (22.0%)^{4,11}. Also in Nepal, the knowledge about STI is low⁹. In Nigeria, 62% of young women and 40% of young men lack knowledge of STIs^{4,6}. Some studies have shown much improvement in the knowledge and perception of adolescents to STIs after some interventions¹¹. However, in some cases, the high social value placed on virginity in unmarried girls in many societies may pressure parents and the community to ensure that young women are kept ignorant about sexual matters. Such female ignorance is often erroneously viewed as a sign of purity and innocence^{5,6}.

In a study carried out among secondary school students in Benin City Nigeria, it was discovered that most of the students had some knowledge about sexually transmitted infections and their manifestations in both males and females⁸. This knowledge however, was not always accurate and sometimes was completely wrong^{3,4}. STIs are those diseases that are contracted mainly through sexual intercourse. They include curable ones like gonorrhoea, syphilis, and chlamydia infection as well as incurable but modifiable ones like HIV, herpes simplex, human papilloma virus (HPV), and hepatitis B infections^{1,2}.

Adolescents and young adults, aged 15–24 years, are more at risk for STIs than older adults³. The World Health Organization estimates that 20% of persons living with HIV/AIDS are in their 20s and one out of twenty adolescents contract an STI each year³. Youths are more likely to practice unprotected sex, have multiple sexual partners, and have transgenerational and transactional sex.

The cervical lining in female adolescents and young women makes them more predisposed to STIs. In addition, they may have problems getting the required information, services, and supplies they need to avoid STIs. They may also experience difficulties in accessing STI prevention services because they do not know where to find them, do not have transportation to get there, or cannot pay for the services. Even if they can obtain STI prevention services, they may not feel comfortable in places that are not youth friendly^{3,4,5}.

Untreated or poorly treated STIs are associated with a lot of complications. In males, gonorrhoea as well as chlamydia trachomatis infection causes epididymitis which can result in infertility in the future. In addition, inflammatory urethral stricture may arise from poorly treated gonococcal urethritis in the future. This may lead to urinary retention and possibly chronic renal failure if not properly managed. For the females, pelvic inflammatory disease, dyspareunia, infertility, chronic pelvic pain, increased risk of ectopic pregnancies, abortions, stillbirths, and perinatal and neonatal morbidities can occur, jeopardizing their future reproductive competences^{5,10,11}. Knowledge of STI and their complications are important for adequate prevention and treatment, as people who do not know the symptoms may fail to recognize their need and so may not seek help. Apart from these morbidities, there is also a positive correlation between the presence of other STIs and the transmission of Human Immunodeficiency Virus (HIV)^{6, 7}. Knowledge of STI complications may play an important role in encouraging safer sexual behaviours⁸. Some communities viewed sexually transmitted infection as unavoidable or as an "initiation into adulthood"^{3, 7}. This work assessed the knowledge of and sources of information of STI.

Materials and Methods

Background to Study

Okpokwu Local Government Area (LGA) is one of the twenty one LGAs in Benue State, Nigeria. It is made up of eleven wards. The people are predominantly Idomas but other ethnic groups such as Igbos and Hausas are present in small areas. The majority of the people are predominantly farmers. Others are traders, artisans, motor bike drivers, and civil servants. There are many public and private primary and secondary schools and one tertiary institution within Okpokwu Local Government Area.

Study Population

The study population was male and female SS1–SS3 students attending public and private secondary schools in Okpokwu LGA. In Nigeria, students spend 6 years in the primary and 6 years in secondary school. The first 3 years in the secondary school are referred to as Junior Secondary 1–3 or JS1–JS3. The latter 3 years are referred to as Senior Secondary 1–3 or SS1–SS3. On completion of the senior secondary school, students are meant to proceed to a university or another tertiary institution where they spend a minimum of 4–6 years depending on the course of study.

Study Design

This was a prospective cross-sectional descriptive survey.

Sample Size

Determination of sample size for the study was done using the formula for calculating single proportions: $N = \frac{P(1-P) \times Z_{\alpha}^2}{d^2}$ ¹⁰

The total number of secondary school students in Okpokwu LGA was above 10,000. Therefore the above sample size formula was used, whereas minimum sample size, is the standard normal deviate, corresponding to 95% confidence level at which for a two tailed test, is the proportion in the target population estimated to have a particular characteristic (prevalence of STI from a previous study was 34%)¹¹ and degree of accuracy desired or maximum allowable difference from true proportion which was set at 5% (0.05).

Sampling Technique

Multistage sampling technique was used for the study. A complete list of all the private and public secondary schools in Okpokwu LGA was obtained from the Ministry of Education. Using systematic random sampling method, 3 private and 3 public secondary schools were chosen. Simple random sampling (balloting) was used to select an arm from each of the class levels (SS1–SS3).

Data Collection Instrument and Methods

A pretested, self-administered questionnaire was used for data collection.

Data Analysis

Data analysis was done using SPSS version 20. Univariate analysis (frequencies and percentages) was done. In determining the level of knowledge of each respondent about STI, a fifteen- (15) point scale developed by the researchers was used. Question with 4 stems on names of STIs known; question with 6 stems on knowledge of modes of STI transmission, and question with 5 stems on knowledge about symptoms of STI of the questionnaire were scored. Therefore, the total points obtainable by a respondent were fifteen (15). Each correct response was scored one mark and nonresponse or wrong response was scored zero mark. Those who scored 5 points or less (≤ 5) were considered as having poor knowledge; those who scored between seven and twelve (6–11) were considered as having fair knowledge, while those who scored between (12–15) were considered as having good knowledge.

Ethical Issues

The major ethical concern was that of confidentiality. The questionnaires were completed privately and anonymously. All records and relevant materials were stored in locked cabinets and accessed only by authorized personnel. Ethical clearance was obtained from the Ethics and

Research Committee of the Benue State University Teaching Hospital Makurdi, Nigeria. Permission to carry out the study was sought from the Ministry of Education and the principals of the various schools. Written informed consent was also obtained from the participants.

Results

Tab 1 showed the socio-demographic characteristics of the respondents. All the 272 respondents completed their questionnaires ensuring a 100% completion rate. The respondents ages ranged from 10 to 24 years with the majority 172(63.2%) in the age group of 15-19 years. There were slightly more females than males. Idomas were the dominant ethnic group constituting 210(77.2%). There were more public schools 342(88.6%) than private ones 44(11.4%). Out of the total number of respondents, ss1 students constituted 63(23.2%), ss2 127(49.9%) and ss3 82(26.9%). Christians were the majority in this study.

Table 1: Sociodemographic characteristics of the respondents (n=272)

Variables	Frequency	Percentage
Age		
10–14	95	34.9
15–19	172	63.2
20–24	5	1.9
Total	272	100.0
Sex		
Male	132	49.1
Female	140	50.9
Total	272	100.0
Ethnic group		
Idoma	210	77.2
Igbo	35	12.8
Hausa	17	6.3
Others	10	3.7
Total	272	100.0
Class		
SSS 1	63	23.2
SSS 2	127	49.9
SSS 3	82	26.9
Total	272	100.0
School type		
Public	342	88.6
Private	44	11.4
Total	386	100.0

Religion		
Christianity	266	94.6
Islam	6	5.4
Total	272	100.0

Table 2 showed the level of awareness about sexually transmitted diseases and their sources of information. Majority 248(91.2%) of the respondents were aware of sexually transmitted diseases. Their main sources of information were radio/television, teachers, newspapers and talks/seminars.

Table 2: Awareness of sexually transmitted infections and sources of information

Awareness of STI	Frequency (n) = 272	Percentage
Aware	248	91.2
Not aware	24	8.8
Total	272	100.0
Sources of information	Frequency *	Percentage
Radio/television	232	85.3
Teachers	237	87.1
Newspaper	202	74.2
Talks/seminars	200	73.7
Friends/relations	120	44.1
Hospital workers	115	42.3
Billboards/posters	95	34.9
Other means	21	7.7

*There were multiple responses.

Table 3 showed that most of the respondents 226(80.2%) knew only one STI and the most named 221(81.3%) is HIV/AIDS. Less than 10% did not know any STI and only 22(8.1%) could name gonorrhoea. Ten (3.7%) opined that malaria was one of the sexually transmitted diseases.

Table 3: Number and types of sexually transmitted infections known by respondents.

Number of sexually transmitted infections known	Frequency (n = 540)	Percentage
None	12	7.6
One	226	80.2
Two	28	9.4
Four	6	2.8
Total	272	100.0
Name of sexually transmitted infection	Frequency*	Percentage
HIV/AIDS	221	81.3

Gonorrhea	22	8.1
Herpes simplex	15	5.5
Malaria	10	3.7
Syphilis	4	1.4

*There were multiple responses.

Table 4 showed modes of transmission of STI and misconception of modes of transmission of STI. Most of the respondents 239(87.9%) opined that unprotected sex is one of the major ways STI is transmitted. This is closely followed by needles and syringes 231(84.9%) and blood and blood products 170(62.5%). As for misconception about modes of transmission of STI coughing/sneezing 62(22.8%), sharing toilets 44(16.1%) and sharing plates 33(12.2%) were indicated as possible means STI can be transmitted.

Table 4: Modes of transmission and misconceptions about modes of transmission of sexually transmitted infections.

	Frequency *	Percentage
Mode of transmission		
Unprotected sex	239	87.9
Needles and syringes	231	84.9
Blood and blood products	170	62.5
Mother to child	100	36.8
Misconceptions about modes of transmission		
Coughing/sneezing	62	22.8
Sharing toilets	44	16.1
Sharing plates	33	12.2

*There were multiple responses.

Table 5 showed the respondents knowledge about the symptoms of STI. Majority of the respondents opined that weight loss 212(77.9%) was the symptom most frequently encountered. Others were painful micturition 200(73.5%) and genital ulcer 185(68.0). Genital swelling, body rash and genital discharge were mentioned by over 60% of the respondents.

Table 5: Knowledge of respondents about symptoms of sexually transmitted infections.

Symptoms	Frequency *	Percentage
Weight loss	212	77.9
Painful micturition	200	73.5
Genital ulcer	185	68.0
Genital swelling	172	63.2
Body rash	171	63.0
Genital discharge	165	60.1
Other symptoms	19	6.9

*There were multiple responses.

Table 6 showed the overall knowledge of the respondents about STI. Overall, most 222 (81.5%) of the respondents had fair knowledge about STI while 40(14.9%) had poor knowledge. Only 10(3.6%) had good knowledge of STI.

Table 6: Overall knowledge of sexually transmitted infections among the respondents

Level of knowledge	Frequency	Percent
Poor knowledge	40	14.9
Fair knowledge	222	81.5
Good knowledge	10	3.6
Total	272	100.0

Discussion

This study on sources of information and knowledge of STI was carried out among senior secondary school students in Okpokwu local government area of Benue State, North Central Nigeria. Over 92% of the respondents were aware of sexually transmitted infections. This finding is consistent with that of a study conducted in Malaysia, in which 92% of the respondents reported awareness of STIs¹². It is also similar but higher than that of a study conducted among Thai adolescents¹³. It is also higher than the study conducted in Northern Nigeria in which 67% of adolescents were aware of STIs¹⁴. However, awareness about other STIs is not encouraging.

The major sources of information were the radio and television (electronic media), teachers, newspapers, health talks and seminars. The fact that the electronic media are the major source of information is because most people have access to transistor radios and adolescents especially have cell phones sets with in-built radios. These give them continuous access to the news. Teachers and schools are playing increasing roles in disseminating information about STIs. This is as a result of sexuality education which is being progressively incorporated into the school curriculum. Moreover, students are taught about STIs in subjects like Basic Science, Biology, and Home Economics.

In this study, only 2.8% of the respondents could mention four STIs while majority of them 81.3% knew only one sexually transmitted infection which was HIV/AIDS. Gonorrhoea was the next most popularly mentioned STI but it was only known to 8.1% of the respondents. This finding is similar to that reported by studies conducted in Tanzania, North Central Nigeria, Thailand, Germany, and Europe in general in which the most commonly known STI was also HIV/AIDS¹⁵⁻¹⁹. However, knowledge about other STIs like gonorrhoea, syphilis, chlamydia, and hepatitis c virus was much lower than that of HIV/AIDS. These studies showed that while widespread publicity has been given to HIV/AIDS, other STIs with severe complications and

which also predispose to HIV/AIDS have been relatively ignored. It is imperative that awareness be created about these STIs as well. About 4% of the respondents had the misconception that malaria is an STI. While this revealed the level of their ignorance about the cause of the disease, it can also fuel the existing stigmatization and discrimination against people with this parasitic disorder. A misconception of this nature was not found in other peer-reviewed literature.

This is consistent with the reports of various other studies conducted within and outside the country though these studies focused mainly on HIV/AIDS¹⁹. In another study conducted among Thai university students, almost everyone knew that sexual intercourse was a route of transmission of STD¹³. The respondents felt that STDs can be transmitted through coughing and sneezing 22.8%, by sharing toilets 16.2%, and by sharing plates 12.2%. Misconceptions about STI transmission weaken the motivation to adopt safer sexual behaviour and strengthen stigmatization against people such that they may be discouraged from accessing healthcare services.

In this study, the four most commonly mentioned symptoms of STI were weight loss, painful micturition, and genital ulcer and genital swelling. This contrasts with that reported among Thai students in which the most commonly mentioned symptoms of STI were penile/vaginal discharge and genital itching¹³. It also contrasts with that of a study conducted among youths in North Central Nigeria in which the most popularly known symptoms of STIs were rash, painful urination, and painful intercourse¹⁶. Overall, less than 4% of the respondents had good knowledge; over three-quarters had fair knowledge, while approximately one-sixth had poor knowledge of sexually transmitted diseases. The majority of the respondents could only mention one STI and some even mentioned malaria disease as an STI; about half had misconceptions about the modes of transmission of STI, while many could not identify some common symptoms of STI.

Conclusion

This study concluded that secondary school adolescents in Okpokwu local government area were mostly aware of sexually transmitted infections but lack in-depth knowledge about these diseases, their symptoms, and modes of transmission. Comprehensive health education about other sexually transmitted infections (apart from HIV/AIDS) should be inculcated into the secondary school curriculum.

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