



Sexual and reproductive health awareness and practices among the deaf/speech-impaired secondary school students in two cities in Nigeria

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Abstract

Background: The World Health Organization estimates that 5% of the world's population has disabling hearing impairment. This subpopulation experiences significant healthcare barriers for various reasons including poor communication and risk of embarrassment among others.

Objectives: This study was conducted to investigate the awareness, sexual abuse, and the behavioral risk factors for HIV and other Sexually Transmitted Infections among Deaf secondary school students in two cities in Nigeria.

Methods: A cross sectional survey was carried out among the Deaf students in two government special schools in Akure and Calabar. All 112 consenting students were recruited into the study. Data analysis was carried out using GraphPad prism software and statistical significance was set at $p < 0.05$.

Results: A total of 112 Deaf students participated in the study (53 males and 59 females), with mean age of 17.8 years (17.1 years for males and 18.4 years for females). Majority ($n=91$; 81.2%) had ever had sex (mean age at sexual debut 11 years), while over a third of them (35.7%) had been raped: 57.7% of females and 11.3% of males. A vast majority of the girls (74%) had exchanged sex for money or gifts. Furthermore, 24.4% of the females had been pregnant with 47% of the pregnancies ending in induced abortions. Only 20 (18%) of the students knew how to protect themselves from sexually transmitted infections.

Conclusions: There was poor awareness of sexual and reproductive health issues and high rates of high-risk sexual behaviors and sexual abuse among the Deaf sub-population in these secondary schools. This calls for urgent designing of appropriate awareness interventions for this group of vulnerable people. This is key to achieving the SDG goal of leaving no one behind.

Key words: Deaf, adolescents, sexual awareness, sexual behaviour

Introduction

The World Health Organization estimates that 5% of the world's population have disabling hearing impairment with majority of these in developing countries such as Nigeria.¹ Thus a community of

about 466 million persons globally depend on sign language for most effective communication.¹ The Deaf population therefore experience significant healthcare marginalization resulting from the interaction of several barriers across multiple levels of the socioeconomic and cultural labyrinth.²⁻⁵

Two major factors limit hearing impaired people's access to medical care; absence of medically-trained sign language interpreters in hospitals and lack of sign language skills among clinicians and hospital staff.⁶⁻⁹ Thus, this poses several challenges for them such as fear of miscommunication with

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hospital staff,¹⁰ embarrassment and confusion when they cannot ask someone at the health facility a question as simple as which queue to join,¹¹ mistrust of healthcare providers, frustration with healthcare services,¹² stress and dissatisfaction with their interaction with the physician,¹³⁻¹⁵ reduced compliance with prescription and treatment plans,⁶ and overall decreased quality of care.^{16,17}

Approximately half of the world's population is below 25 years and about 90% of them amounting to 1.8 billion people live in low- and middle-income countries.¹⁸ Despite the risk posed to countries by its neglect, Adolescent Sexual and Reproductive Health (ASRH) has been overlooked historically by many countries. Various legal instruments had been introduced to tackle this such as the UN General Assembly Special Session on Children which held in 2002, the Committee of the Convention on the Rights of the Child in 2003 and the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW).¹⁹⁻²¹

Deaf people have been shown to have poor knowledge of Sex-related issues, especially -HIV transmission and prevention.²²⁻²⁴ This is because people with hearing loss can hardly benefit from Sexual and Reproductive Health (SRH) programs targeted at the general population as they do not have access to information on the road, radio or TV, and reproductive health information in Sign Language form are generally lacking.²⁵ Negative perceptions about deafness and lack of societal understanding of their concerns have contributed to the neglect of Deaf people in SRH programs and policies.²⁶

In 2012, a survey carried out across every local government area (LGA) in Nigeria revealed that 37% of the females and 20% of the males among young people aged 15-19 years had engaged in sex, showing a little decline from the 2007 findings which were 43% for female and 22% for male with a median age at sexual debut of 17 years for both males and females.²⁷ Among deaf students in a study in Ibadan, 48.6% had had sexual intercourse with a median age at sexual debut of 14 years, and only 15.4% reported using a condom during their last sexual experience compared to 63.8% of the hearing students who did same.²⁸

A lifetime of ill effects results from painful or damaging transition to adulthood due to the neglect

of ASRH of deaf adolescents. These effects include: early pregnancy/motherhood which can be physically risky and can compromise educational achievement and economic potential, increased risk of exposure to HIV and sexually transmitted infections (STIs), sexual coercion, exploitation, and violence. The huge impacts of these on an individual's physical and mental health, as well as long-term implications for them, their families, and their communities cannot be overemphasised. Furthermore, HIV transmission rate and prevalence has been found to be higher among poor people than among people in the higher economic class,²⁹ and individuals with hearing loss have been documented to have a much higher unemployment rate and consequently lower socioeconomic status than their hearing counterparts.^{30,31} This economic situation puts the deaf in vulnerable positions with higher risk of unsafe sexual practices and transmission of HIV infection.²⁹

This study was therefore conducted to investigate the awareness, sexual abuse and the behavioral risk factors for HIV and other STI's among the Deaf Secondary school students in two cities in Nigeria.

Methods

Study Area: The study was conducted in two Special Education Centres in Nigeria. The Special Education Centre Calabar is located in the heart of the city in Big Qua Town. It has a total population of 511 students, with 263 in the Primary section and 248 students in the secondary section. Only students in the Secondary Section were mobilized for the index study. The Ondo State School for the Deaf is located in Akure, the capital city. It is a boarding school for children with other disabilities besides deafness whose parents live in distant local government areas and in other states.

Sample Size Determination: All students in both schools were recruited to participate. Due to the small number of physically challenged in-school adolescents in these cities, all deaf students in both schools were mobilized from JSS1 to SS3 for the study.

Study Design: A cross-sectional survey was carried out on all 112 consenting adolescent Deaf students in the two special government schools in Nigeria:

The Special Education Centers in Calabar and Akure.

Sampling Technique: All Deaf students who gave consent in the secondary section of both schools were recruited. Of 58 deaf students seen in Calabar, 52 (90%) of them consented and of 86 students in Akure, 60 (70%) consented to the survey.

Selection of Subjects: All deaf and speech impaired students in JSS1-SS3 in the government special schools in the study states were recruited for the study. The contents of the questionnaires to be administered were explained to them in Sign Language. All who gave verbal consent were included in the survey.

Survey Tool: The survey instrument was adapted from the *UNAIDS/UNESCO/WHO Handbook on School Health Education to Prevent AIDS and STD*.³³ Each item on the questionnaire was explained to the deaf participants by the researcher who is a medical

doctor and advanced Sign Language expert. He was assisted by the State Chairperson of Deaf Women Association of Nigeria who was previously selected and trained on how to administer the questionnaire. The questions were thoroughly modified to be intelligible to the deaf respondents who generally have low English comprehension levels.

Ethical Clearance: Ethical clearance was sought and obtained from the State Research Ethics Committee of Ministry of Education and Ministry of Health. Informed verbal consent was sought and obtained using sign language. All those who consented to participate in the survey were selected for the survey.

Data management and statistics: Data obtained was analyzed using GraphPad prism. The Categorical data were summarized with frequency and percentages. Pearson’s chi square was applied to assess the association between categorical data. Statistical significance was set at less than 0.05 P-value.

Table 1: Demographic Characteristics of Respondents

| Demographic characteristic | Sex n (%) | | Total (n=112) | Statistical indices |
|----------------------------|-------------|---------------|---------------|---------------------|
| | Male (n=53) | Female (n=59) | | |
| Age (years) | | | | |
| <13 | 4 (6.7) | 3 (5.1) | 7 (6.3) | Fishers exact |
| 13-15 | 9(17.0) | 6 (10.2) | 15 (13.4) | Df=3 |
| 15-17 | 18(34.0) | 27 (46.0) | 45 (40.2) | P value =0.552 |
| >18 | 22(41.5) | 23 (39.0) | 45 (40.2) | |
| Class | | | | |
| JS 1 | 8(15.1) | | 12 (10.7) | Fishers exact |
| JS 2 | 9 (17.0) | 4 (6.8) | 19 (17.0) | Df=5 |
| JS 3 | 7(13.2) | 10 (16.9) | 14 (12.5) | P value=0.033* |
| SS 1 | 9 (17.0) | 7 (12.0) | 22 (19.6) | |
| SS 2 | 8 (15.1) | 13 (22.0) | 18 (16.1) | |
| SS 3 | 12 (22.6) | 10 (16.9) | 27 (24.1) | |
| | | 15 (25.4) | | |
| Marital Status | | | | |
| Married | 0 (0) | 2 (3.4) | 2 (1.8) | Fishers exact |
| Single | 53 (100.0) | 57 (96.6) | 110(98.3) | Df=1 |
| | | | | P value=0.011* |

*statistically significant

Table 2: Sexual Abuse History of Respondents

| Variables | Sex n (%) | | Total (n=112) | Statistical indices |
|----------------------------------|-------------|---------------|---------------|---------------------|
| | Male (n=53) | Female (n=59) | | |
| Ever had sex | | | | Fishers exact |
| Yes | 44 (83.0) | 47 (79.7) | 91 (81.2) | Df, 1 |
| No | 9 (17.0) | 12 (20.3) | 21 (18.8) | p=0.2066 |
| Age at sexual debut(n=91) | | | | Df, 2 |
| <15 | 17 (32.0) | 28 (47.5) | 45(49.5) | $\chi^2=7.189$ |
| >15 | 27 (50.9) | 19 (32.2) | 46 (50.5) | P =0.0275* |
| Ever Been Raped | | | | Fishers exact |
| Yes | 6 (11.3) | 34 (57.6) | 40 (35.7) | Df=1 |
| No | 47 (88.3) | 25 (42.4) | 72 (64.3) | P=0.0001* |
| How many times? (n=40) | | | | χ^2 |
| <2 | 1 (1.9) | 5 (8.5) | 6 (5.4) | Df, 2 |
| 2-4 | 2 (3.8) | 16 (27.1) | 18 (16.1) | $\chi^2=0.4031$ |
| >5 | 3 (5.7) | 13 (22.0) | 16 (14.2) | P=0.8175 |

***statistically significant ***

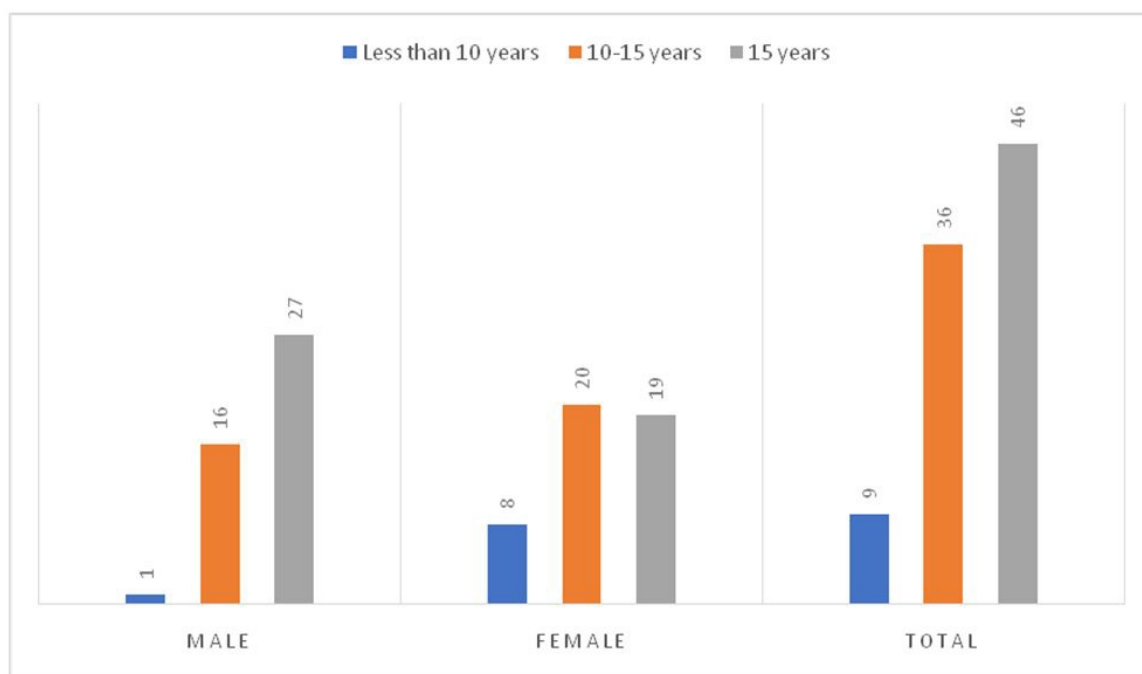


Figure 1: Respondents' age at sexual debut

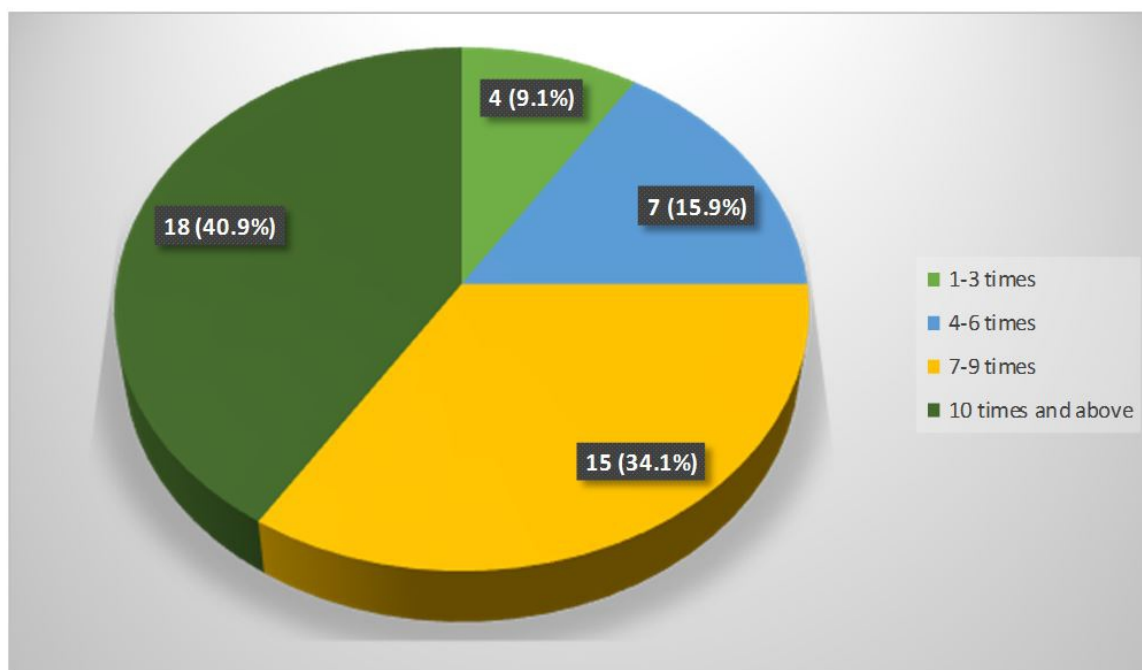


Figure 2: Number of times female students have exchanged sex for money in the past one year

Results

A total of 112 students participated in the study: 53 boys (48.2%) and 59 girls (52.7%), with a mean age of 17.8 years (17.1 years for males and 18.4 years for females). Respondents in SS3 made up most of the participants (24.1%), and nearly all participants were unmarried (98.3%). However, 2 females (3.4%) versus no males were married and this difference was statistically significant ($p=0.011$) (Table 1).

Table 2 shows the sexual abuse history of the respondents. Majority of them (81.2%) had had sexual intercourse, with mean age at sexual debut being 11 years. Nearly half of the students had their age at sexual debut less than 15 years (49.5%) with significantly ($p=0.028$) more girls reporting this (47.5%) than boys (32.0%) (figure 1). Over half of the female respondents ($n=34;57.6%$) had been raped, compared to 6 (11.3%) males and this difference was statistically significant ($p=0.0001$). Of participants who had been raped, most experienced this 2-4 times (16.1%), with an average of 3 times each. The mean age at first rape was 10.8 years (Range= 3 - 18 years). Only 18% knew how to protect themselves from sexually transmitted infections, whereas 65.3% were

involved in unprotected sex within the last 2 years. Most of the girls (74%) had exchanged sex for money, an average of 4.6 times each, while none of the male students had experienced this. Figure 2 shows the number of times each female student had sexual intercourse for money in the past one year. About 30% had exchanged sex for money more than 10 times in the previous year. Over three fifths (62%) of the students had non-marital sexual partners, with an average of 3.1 partners each. About a quarter of the girls (24.4%) had ever been pregnant; of these, 47% ended in induced abortion while 53% ended in live birth.

Among respondents, only 32 (28.6%) had been previously screened for HIV, and 4 (12.5%) of these tested positive. Among those who had not been previously screened (80, 71.4%), about a third of the students (34.8%) stated that they would refuse retroviral screening if offered.

Discussion

This study assessed the awareness, sexual abuse and the behavioral risk factors for HIV/AIDS and other STI's among the Deaf secondary school students in two cities in Nigeria. The average age of the participants was 17.8 years, with about 40% of them

being more than 18 years old. With regard to this, Sangowawa *et al* showed that Deaf students started school at an older age than their hearing counterparts as the mean age of deaf students in their study was higher than that of hearing students in the same classes.²⁸ It is also note-worthy that while none of the boys were married, 3.4% of the girls were. This suggests that the Deaf girls marry early, even while in school.

A high level of risk for HIV/AIDS and other STIs was seen as demonstrated by the respondents' sexual practices and poor awareness on STDs. A vast majority of the students, who were mostly in their teens had previously had sex, contrary to some misconceptions that people with disability are not sexually active.^{34,35}

The proportion of sexually active students in this study was by far higher than what was observed in previous studies among Deaf^{36,37} and hearing adolescents.³⁷⁻³⁹ The researchers posit two reasons for this difference. One reason may be due to the different values attached to the issue of adolescent sexuality by different regions. However, a more likely reason may be due to the difference in communication skills and resultant cultural barrier created during surveys on the Deaf population, as most researchers rely on hearing interpreters to translate the questionnaires and obtain information from the culturally Deaf.³⁵⁻³⁷ This creates a cultural barrier between the interviewer and the respondents. The index study used a culturally Deaf interviewer, which removed this cultural barrier, allowing the Deaf students to open up to the researchers during the survey.

Early age at sexual debut was also demonstrated among the Deaf students in this study, with 11 years being the average age at first intercourse. This is alarming as early sexual debut has numerous attendant problems including increased incidence of multiple sexual partners, unprotected sex, risk for sexually transmitted diseases including HIV/AIDS, unwanted and teenage pregnancies, and unsafe abortions.^{40,41} Contrary to this finding, studies among hearing impaired adolescents in Cameroon⁴² and Nigeria,^{36,43} reported the average age of sexual debut between 15 and 17 years. The average age at sexual debut in this study was also less than that of the general population in Nigeria (15 years).⁴⁴ A contributory factor to this may be that age at sexual

debut among both hearing and non-hearing population in the southern region of Nigeria is low.^{45,46}

Further worsening their risks for HIV/AIDS and other STIs, more than half of the deaf girls and about 1 in 10 boys had been raped. The average number of times they had been raped was 3 times each, and the average age at first rape was 10.8 years. A study in the US found that 69% of the deaf women had been raped at least once in their lifetime while 56% had been raped multiple times.⁴⁷ Another study in Nigeria reported that 28% of their respondents had been physically assaulted while 18.6% were sexually assaulted.⁴⁸ In a study of a large population of deaf people in Norway, intercourse during childhood was four times more frequent in the deaf group than in the Norwegian hearing comparison group.⁴⁹ These findings are very disturbing, and even more concerning when viewed against the fact that these deaf adolescents have limited or no access to post-rape medical interventions such as post-exposure prophylaxis for HIV, contraception, psychological counseling, and antibiotic prophylaxis for STIs; nor police, legal counsel or courts for protection.^{50,51}

It is interesting that while these students engaged in high risk behavior, especially the females, only 18% knew how to protect themselves self from STDs. Besides, majority had been involved in unprotected sex in the last two years. This may explain why previous literature has revealed a high prevalence of HIV/AIDS among deaf populations.^{35,52}

Most of the girls (74%) and none of the boys had sex for money or other forms of material support. The girls had sex for money an average of 4.6 times each. A similar study on adolescents with disabilities in Nigeria however reported that 11.7% of the females and 7.7% of the males had exchanged sex for money or gifts.⁴³ This disparity may be due to the differences in the study population and timing of the study. Deaf adolescents, especially females are vulnerable to be lured with money and gifts into sexual acts due to the fact that they have fewer opportunities for gainful employment than their hearing counterparts⁵³ which may push them into exchanging sexual favors for money. In addition, these girls may suffer maltreatment at home or poor communication with their families and take the money and gifts offered by predatory older men as

the attention they are not receiving from home. It has been found in other studies that the high levels of risky sexual practices among deaf students is a consequence of multiple factors, including lack of health information in sign language, feelings of social isolation, low literacy rates among disabled people, depression, low self-efficacy and poverty.^{25,50,54}

In this study, of the 32 students who had been tested for HIV in the past, 4(12.5%) were HIV positive. It is worrisome, however that 34.8% of the students said they would refuse testing for HIV/AIDS if offered. The low uptake of condoms is also responsible for the rate of teenage pregnancy found in the present study, with nearly a quarter of the girls having been pregnant, and 47% having had what was most likely an unsafe abortion, putting them at risk of life-threatening complications. Oladunni *et al.* found poor knowledge of sex-related issues such as unprotected sex, teenage pregnancy, STIs/HIV/AIDS and contraceptive awareness were among students of handicapped schools in Osun state.⁴³

A limitation of this study is that we did not survey the hearing population to compare our findings and we did not explore further the underlying reasons for the risky sexual behaviors. However, to the best of our knowledge, this is one of the first studies that address the issue of sexuality among deaf populations in Southern Nigeria and could serve as a precedent for other large-scale studies as well as inform educational programs and policy making towards this group. Also, the fact that there was no reliance on the teachers in those schools to interpret the questionnaires into Sign Language eliminated the possibility of misinformation or information bias, which is a significant limitation in many studies conducted in this population.

To conclude, this study revealed that deaf secondary school students in Calabar and Akure are highly vulnerable and at greater risk of contracting HIV/AIDS and other sexually transmitted infections. They had early age at sexual debut, had been raped an average of 3 times each with the average age at first rape being 10.8years. The vast majority of them were sexually active and about three quarters of the female students exchanged sex for money or gifts while a quarter had experienced teenage pregnancy. Despite these risky behaviours

and circumstances, only 18% knew how to protect themselves from STDs and only 28.6% had been tested for HIV/AIDS, of which 4 (12.5%) tested positive. This is a great public health concern and requires urgent actions for redress.

We recommend a thorough and specific sexuality education which will address basic information and skills required to make responsible sexual decisions. This can be achieved by including sexuality education in their secondary school curriculum. In addition, deaf people should be taught interpersonal skills in decision making, assertiveness, and refusal skills. Parents and teachers of children with hearing impairments must also pay keen attention to their children, form strong bonds with them in order to be abreast of any attempts of other adults to take advantage of their wards. Other stakeholders such as health professionals, NGOs, religious bodies and peers should also be trained to perform these responsibilities. Prosecution and litigation against perpetrators of sexual assault against disabled people must be a priority as this would warn off others who may have thought to do the same. Lastly economic empowerment of this disadvantaged group would go a long way in curbing their vulnerability to be lured with money or gifts to engage in sexual activities, especially with older men.

Acknowledgements: The authors wish to acknowledge Mrs Esther Edet, State Chairperson of Deaf Women Association of Nigeria who helped in the sign language interpretation of the questions to the female students.

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