

## ORIGINAL RESEARCH ARTICLE

# Sexual and Reproductive Health Knowledge, Behaviour and Education Needs of In-School Adolescents in Northern Nigeria

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## ABSTRACT

Adolescence is marked by progression from the appearance of secondary sexual characteristics to sexual and reproductive maturity. Curiosity about bodily changes is heightened. However, adolescents' perceived sexuality education needs have been poorly documented. A survey of 989 adolescents from 24 North-Eastern Nigerian secondary schools yielded information on socio-demographic characteristics, reproductive health knowledge, sexual activities and sexuality education needs. Of the interviewed respondents, 72% of females had experienced menstruation. Overall, 9% were sexually active, 3.1% knew when ovulation occurs, 47% knew pregnancy could result from first coitus and 56% knew of contraception. 84% opined that adolescents should be given sexuality education but only 48.3% had received any. Sexuality education should be provided for in-school adolescents through their preferred and reliable sources of information (*Afr J Reprod Health* 2009; 13[4]:37-49).

## RÉSUMÉ

**Connaissance de la santé sexuelle et de la reproduction, les besoins éducatifs et comportementaux des adolescents encore à l'école au sud du Nigéria.** L'adolescence est marquée par une progression à partir de la parution des caractéristiques sexuelles secondaires jusqu'à la maturité sexuelle et de la reproduction. La curiosité à l'égard des modifications physiologiques augmente. Une enquête sur 989 adolescents venant de 24 écoles secondaires du nord-est du Nigeria a donné des renseignements sur les caractéristiques socio-démographiques, la connaissance de la santé de la reproduction, les activités sexuelles et les besoins de l'éducation sexuelle. Parmi les enquêtés, 72% des femelles ont subi la menstruation. Dans l'ensemble, 9% étaient sexuellement actives, 3.1% savaient quand l'ovulation se produit, 47% savaient qu'il est possible de devenir enceinte dès le premier coït et 56% connaissaient la contraception. 84% étaient d'opinion que les adolescents doivent avoir l'éducation sexuelle, mais seuls 48,3% l'ont jamais eu. Il faut mettre l'éducation sexuelle sur le programme scolaire des adolescents encore à l'école à travers leurs sources sérieuses d'information (*Afr J Reprod Health* 2009; 13[4]: 37-49).

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KEYWORDS: In-School Adolescence; Reproductive health; Education needs; Northern Nigeria

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## Introduction

In recent times there has been a growing interest in the sexual and reproductive health of adolescents all over the world. Although they constitute one of the most dynamic human resource bases and one of the healthiest groups in most populations, their potentials are often negated by the poor choices they make, which translate to risky behaviours and eventual ill health. While they represent 25% of the sexually active population, they account for about one-half of all new sexually transmitted infections (STIs) because they are more susceptible, for biological, behavioral and cultural reasons<sup>1</sup>. Their sexual and reproductive health needs differ from those of adults and although they constitute about 20% of the world's population<sup>2</sup>, adolescents' reproductive health needs remain poorly understood and inadequately served in many parts of the world<sup>3</sup>. Hence, they are typically poorly informed about how to protect their sexual and reproductive health<sup>4</sup>. Consequently, they often engage in risky sexual behaviours, which increase their susceptibility to HIV and other sexually transmitted infections, some of which cause lifelong problems including infertility, if left untreated.

Despite the fact that several educational programs have been carried out among in-school adolescents in Nigeria to increase awareness about risky sexual behaviour and promote safe and responsible sexual behaviour<sup>5,6</sup>, it has been found that in many cases, several misconceptions exist among them and there are gaps in their knowledge.

Although almost all adolescents have some information about sexually transmitted infections, they lack adequate knowledge about transmission and presentation<sup>7,8</sup>.

Northern Nigeria partly on account of culture and religion has an education system that has hitherto not been receptive to the type of sexuality education which has been made available in other parts of the country. However, the sexuality of the in-school population and the consequences in terms of STDs and risk of HIV infection are biologically the same all over the country.

This study was designed to explore the reproductive health knowledge, sexual behaviour and sexuality education needs of in-school adolescents in northern Nigeria. The data used for this study was obtained from a baseline survey/needs assessment conducted in 2004 for an intervention carried out by the Association for Reproductive and Family Health (ARFH), Ibadan, Oyo State, Nigeria in 4 North-Eastern Nigerian states namely Bauchi, Borno, Gombe and Yobe States.

## Materials and Methods

The study was exploratory and cross-sectional by design. Six secondary schools were purposively selected from rural, semi-urban and urban areas in each of the four project states making a total number of 24 secondary schools. A total number of 989 students were selected from JSS 1 to SSS 2 excluding SSS 3 students, due to the fact that SSS 3 students were very busy and would probably no longer be in the school during the project intervention.

### *Data Collection Tools*

Comprehensive 83-item questionnaires with open-ended and closed-ended questions were designed to elicit information such as demographic and socio-economic characteristics, knowledge about reproductive health, attitudes towards premarital sex, sexual activities, knowledge of sexually transmitted infections and reproductive knowledge needs from students in selected secondary school in four Northern Nigerian states. These questionnaires were pre-tested in a similar population and were modified appropriately.

### *Data Collection*

After obtaining permission from the school authorities and the consent of participating students, questionnaires were administered to randomly selected consenting students through face to face interviews with the help of 5 trained research assistants in each state, and under the supervision of a team of programme and evaluation officers from ARFH. These students filled them and returned immediately afterwards. All students completed and returned the questionnaires, hence a total of 989 questionnaires were collected.

### *Data Analysis*

Completed questionnaires were collated and entered, cleaned and analyzed appropriately, using the SPSS version 10 Software. Correlation analysis was carried out to confirm significant relationships between variables of interest.

## **Results**

The results obtained are categorized under 4 major subtopics namely socio-demographic characteristics of the respondents, their sexual and reproductive knowledge, sexual behaviour, and sexuality education needs.

### *Socio-Demographic and Economic Characteristics*

A larger proportion (55.3%) of the respondents was aged 15-19 years followed by those aged less than 15 years old (34.1%), hence it is not surprising that most of them (95.6%) were single. A greater percentage of the students were Muslims (59.2%), followed by about a third (32.5%) who were Christians from various denominations (a detail of the their various denominations is given in the Table 1). More than half (56.3%) were from monogamous homes, followed by more than a third (39%) who were from polygamous homes. Table 1 below gives a detailed description of the respondents' socio-demographic characteristics.

More than a third of the respondents reported that they had ever worked for money though those who were currently working for money were less than a third (30%). Most of those who had ever worked were either artisans (52.3%) or were involved in business (24.9%). About a quarter each of the students had fathers who worked as civil servants (27%) and artisans (26%) respectively, while 32% and 28.4% had mothers who were civil servants and housewives respectively.

**Table 1:** Demographic characteristics of respondents (N = 989)

| Variable                            | Category   | Frequency | Percentage |
|-------------------------------------|--|-----------|------------|
| Age (Years)                         | <15  | 337       | 34.1       |
|                                     | 15-19  | 547       | 55.3       |
|                                     | 20 and above   | 105       | 10.6       |
| Sex                                 | Male   | 529       | 53.5       |
|                                     | Female   | 451       | 45.6       |
|                                     | Not indicated  | 9         | 0.9        |
| Type of school                      | Boys only  | 325       | 32.9       |
|                                     | Girls only   | 259       | 26.2       |
|                                     | Co-educational                                       | 405       | 40.9       |
| Religion                            | Islam  | 585       | 59.2       |
|                                     | Catholic   | 105       | 10.6       |
|                                     | Pentecostal  | 215       | 21.7       |
|                                     | African tradition                                    | 76        | 7.7        |
|                                     | Traditional protestant                               | 2         | 0.2        |
|                                     | Not indicated  | 6         | 0.6        |
| Marital Status                      | Married  | 12        | 1.2        |
|                                     | Single   | 946       | 95.6       |
|                                     | Co-habiting (Living with boy/girl friend)            | 28        | 2.8        |
|                                     | Not indicated  | 3         | 0.3        |
| Current family situation            | Both parents live together                           | 824       | 83.3       |
|                                     | Both parents are married but live in different towns | 27        | 2.7        |
|                                     | Parents are divorced                                 | 29        | 2.9        |
|                                     | One parent is dead                                   | 81        | 8.2        |
|                                     | Both parents are dead                                | 10        | 1.0        |
| Are you currently working for money | Yes  | 293       | 29.6       |
|                                     | No   | 687       | 69.5       |
|                                     | Not indicated  | 9         | 0.9        |
| Type of work / job (n=293)          | Artisan  | 202       | 52.3       |
|                                     | Business   | 96        | 24.9       |
|                                     | Politics   | 1         | 0.3        |
|                                     | Not disclosed  | 86        | 22.3       |
| Father's occupation                 | Artisan  | 253       | 25.6       |
|                                     | Business   | 179       | 18.1       |
|                                     | Professional   | 191       | 19.3       |
|                                     | Civil servant  | 267       | 27.0       |
|                                     | Clergy   | 29        | 2.9        |
|                                     | Pensioner  | 46        | 4.7        |
| Mother's occupation                 | No response  | 24        | 2.4        |
|                                     | Artisan  | 281       | 28.4       |
|                                     | Business   | 135       | 13.7       |
|                                     | Professional   | 113       | 11.4       |
|                                     | Civil servant  | 89        | 9.0        |
|                                     | Housewife  | 316       | 32.0       |
|                                     | Clergy   | 2         | 0.2        |
|                                     | Student  | 6         | 0.6        |
| No response                         | 47   | 4.8       |            |

*Sexual and Reproductive Health Knowledge*

**Knowledge of the menstrual cycle:**

Although more than two-thirds (72%) of the females had experienced menstruation, most of the students (92%: 96% males and 87% females) did not know when in the menstrual cycle is an unsafe period. However when the percentages of those who knew about the unsafe period was compared across the school types, it was observed that a higher percentage of those who knew about the unsafe period were in co-educational schools (13.6%) compared to those in boys' only (3%) and girls' only schools (7%). Similarly, when asked about what they understood by safe period, less than a tenth (8%, 74% of which were girls) could correctly state what it meant. A comparison of answers given by students in the different school types also showed that more (13.3%) of those in co-educational schools understood the term 'safe period', than those in boys' only schools (2.2%) or girls only schools (7.3%).

Very few of the students (3.1%) knew when ovulation occurs in the menstrual cycle and slight variations occurred among the school types: in co-educational schools, 4.4% of them knew when ovulation occurs, in boys' only schools and girls' only schools 2.5% and 2.0% respectively knew when ovulation occurs. Further analysis confirmed that school type and sex respectively had a significant relationship with knowledge of ovulation ( $p=0.000$ ,  $p=0.002$ ), and the

knowledge of safe period ( $p=0.000$ ,  $p=0.000$ ).

**Knowledge of pregnancy prevention:**

Less than half (47%) of the students believed that one could get pregnant at first intercourse. Of these about half (51%) were males while others (48%) were females. A greater percentage of those in co-educational schools (51%) were observed to be aware of the possibility of pregnancy at first coitus, than those in girls' only (46%) and boys' only schools (40%). Further analysis revealed that awareness of the possibility if pregnancy at first coitus had a significant relationship with school type ( $p=0.039$ ), sex ( $p=0.000$ ), and age group ( $p=0.000$ )

Moreover, only a little more than half (56%) of the respondents knew of ways that partners could avoid having a pregnancy. Specifically 57% of the males and 55% of the females knew of ways through which pregnancy can be prevented. A greater percentage of those in co-educational schools (62%) stated that they knew about pregnancy prevention methods than those in boys' only (51%) or girls' only (54%) secondary schools. Knowledge about pregnancy prevention was observed to have a significant relationship with school type ( $p=0.003$ ) and age group ( $p=0.000$ ).

The most frequently mentioned method was condoms (43.5%), followed by pills (27%). Less than a tenth (7.5%) mentioned female condoms and less than five percent of them mentioned other methods such as intra-uterine device,

spermicides, withdrawal method, vasectomy, tubal ligation, and diaphragm use.

For about half of those who knew of ways to prevent pregnancy (50.5%), their source of information about contraceptives was the radio/television. Other sources of information were teachers (28%), print media (26%), friends/school mates (26%), youth friendly clinic (22.3%), health workers (20.5%), parents (13.7%) and siblings (6.5%). It is noteworthy that the sources of information for differed according to sex. Table 2 shows a comparison of source of contraceptive information between both sexes.

**Table 2:** Source of contraceptive information according to sex (N=499)

| Source of Contraceptive Information                    | Males (%) | Females (%) |
|--|-----------|-------------|
| Television/Radio                                       | 55        | 45          |
| Print media (newspapers, magazines, poster, pamphlets) | 78        | 22          |
| Health workers   | 59        | 39          |
| Parents  | 43        | 57          |
| Siblings   | 30        | 70          |
| Friends/school mates                                   | 60        | 39          |
| Youth friendly clinics                                 | 47        | 53          |
| Teachers   | 41        | 58          |

As shown in the Table, siblings, teachers, and parents were the most frequently mentioned source of information among the female students. On the other hand, the most frequently mentioned sources of contraceptive information for the males were the print media, friends and health workers. Siblings were the least frequently mentioned source of

information among the male respondents while for female the print media was the least frequently mentioned source of information.

**Knowledge of sexually transmitted infections:** When asked to list diseases that can be transmitted through sexual intercourse, majority of them (87.1%) mentioned HIV while almost a third of them mentioned gonorrhoea. Five percent of them mentioned syphilis while less than one percent mentioned other diseases such as genital warts, genital herpes, candidiasis, Chlamydia, trichomoniasis, and hepatitis. Almost a tenth (9%) of them however said they did not know any sexually transmitted disease.

**Opinion about premarital sex and contraceptive use:** Only about a tenth of the respondents were of the opinion that young people should be involved in premarital sex. Specifically, 9.3% of the students were of the view that girls could be involved in premarital sex whereas 11% felt that boys should be involved in premarital sex. However, almost a third of them (30.4%) were of the opinion that young people should be allowed to use contraception in order to prevent pregnancy.

### *Sexual Behaviour*

In schools in Yobe State, questions on sexual activities were not allowed. Also, in Bauchi state it was observed that some students refused to answer questions that had to do with sexual activity. Hence a

total number of 290 students were exempted from answering questions on sexual activities.

***Puberty signs and sexual activity:*** More than two-thirds (72%) of the female students said they had experienced menstruation and a little more than half (51%) of the males had experienced wet dreaming. Over a third of them (35.4%) said they had experienced sexual feelings and relations though more males claimed to have experienced this than females.

Almost a third of the respondents (32%) reported that they had ever had boy/girl friends. However 29% of the respondents were not allowed to answer this question due to school policies. More than two-fifth of respondents in co-educational schools reported that they had boy/girl friends, followed by 27% of those in boys' only schools and 17.4% of those in girls' only schools.

Less than a tenth (9%: 13% males and 4% females) of the respondents reported themselves to have had sex before, while 62% indicated that they had never had sex. Almost a third of them (29%) however, were not allowed to answer that question. Those in co-educational and boys only secondary schools who reported that they were sexually active (12% and 11% respectively) were much more than those in girls' only secondary schools who reported that they were sexually active (1.2%).

***Experience with unplanned pregnancy and sexually transmitted infections:*** Almost a tenth of the students (9.0%)

said they had experienced sexually transmitted infections in the past. Of these two-thirds were females. A few (4.8%) also reported that they had experiences with abortion in the past but less than 2% said they had early/unplanned pregnancy.

### *Sexuality Education Needs*

Most of the respondents (84%) were of the opinion that young people should be provided with information about reproductive health. However, less than half of them (48.3%) had spoken to someone about their sexual /reproductive experiences in the last one year. Of these there were slightly more females (52%) than males. Persons they discussed sexual/ reproductive experiences with included friends (33%), parents (26%), teachers (23%), siblings (8%) and other family members (4%). Most of these discussions took place at home (49%) or at school (43%).

### **Preferred sources of information:**

Although the respondents desired to share their reproductive health experiences and gain knowledge, their preferred confidant/source of information varied depending on the topic of interest as described below and illustrated in Figures 1 to 3.

Figure 1 shows that the students preferred to talk about issues such as menstruation and bodily changes with parents followed by friends/school mates and then health workers. Specifically, two-fifth and one-fifth of the students respectively preferred to acquire informa-

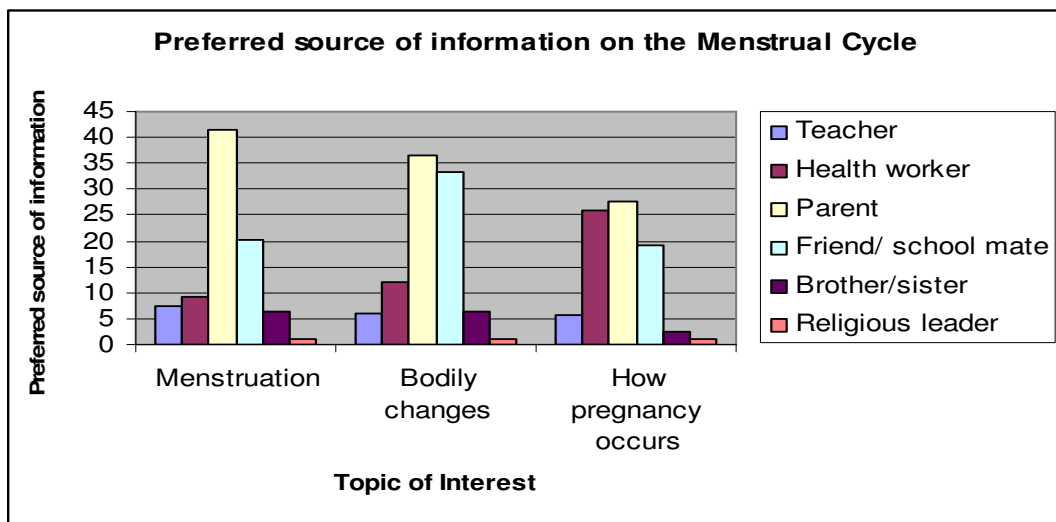


Figure 1: Preferred confidant/ adviser on menstruation, bodily changes and how pregnancy occurs

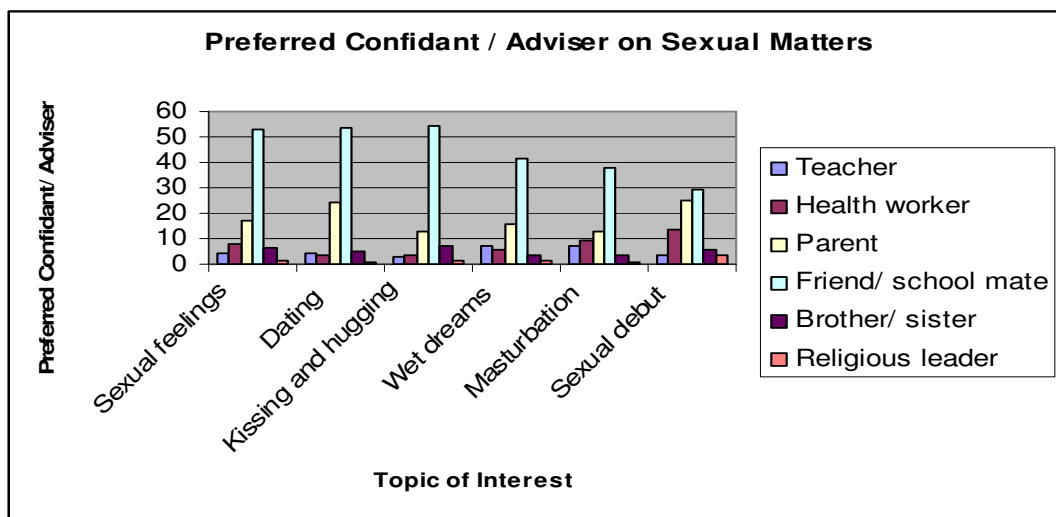


Figure 2: Preferred confidant/ adviser on sexual matters

tion about menstruation from their parents and friends/ school mates; followed by less than a tenth (9.3%) who wanted to get such information from health workers. About a third each wanted information about bodily changes from parents and friends while about a tenth (12.2%) wanted to be informed by

health workers. More than a quarter of the students (26% and 28%) wanted information about how pregnancy occurs from their parents and health workers respectively.

Figure 2 shows that on sexual matters such as dating, sexual feelings, kissing and hugging, wet dreams, sexual debut



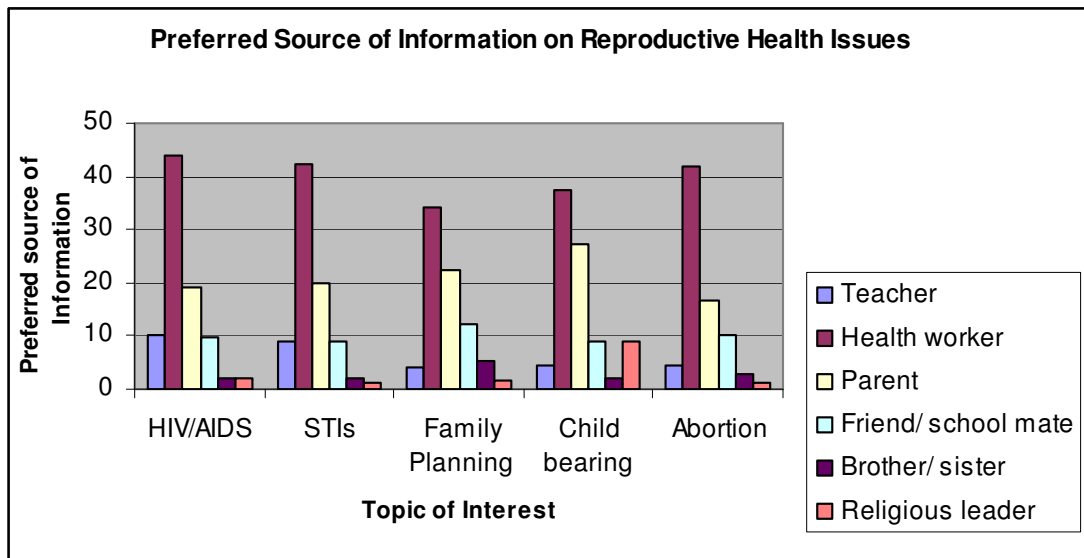


Figure 3: Preferred confidant/ adviser on HIV/AIDS, STIS and child bearing issues

and masturbation, a greater percentage of the students stated that they would be more at ease discussing such with friends/ school mates and then parents. In particular, a little more than half wanted to discuss sexual feelings and relations (53%), dating (54%), kissing and hugging (54%) with their peers, while less than a quarter wanted to discuss these issues with parents. For majority of them, religious leaders were the least preferred adviser/ source of information.

As shown in Figure 3 the most preferred source of information/confidant on issues such as HIV/AIDS and STIs were health workers (44%), followed by parents (19%). Similarly, health workers were the preferred source of information on issues related to child bearing, family planning and abortion. Specifically, more than a third preferred to discuss child delivery (37.4%) and pregnancy prevention (34.0%) with health workers, followed by 27% and 22.4% who said

they would prefer to discuss child delivery and pregnancy prevention respectively with their parents. About two-fifth of them also said they would be more comfortable discussing abortion with health workers, followed by 17% who felt they would rather discuss abortion with their parents.

### Discussion

One characteristic feature of adolescence according to WHO, is the progression from the appearance of secondary sexual characteristics (puberty) to sexual and reproductive maturity<sup>2</sup>. This is usually accompanied by curiosity and questions about changes observed in the body. This study demonstrates the fact that adolescence is a crucial phase of development. Most of the respondents had experienced bodily changes and sexual feeling, which all occur as a result of puberty. However, many of them lack

adequate understanding of the changes that occur in their bodies and how to manage them. This is reflected in their poor knowledge of major reproductive health issues that affect them as discussed below.

The respondents' knowledge of events that occur in the menstrual cycle is unacceptably low. However, this trend has been observed among adolescents in different settings and communities. Several studies have revealed that adolescents' knowledge of fertility, menstruation and of hygienic practices during menstruation is poor in many countries. For example in Dakar, Senegal, two-thirds of adolescent girls and boys ages 15 to 19 could not identify the midpoint of the menstrual cycle as the time when a woman is most likely to get pregnant<sup>9</sup>. A study carried in Ile Ife also showed that about 40% of school girls did not know the cause or meaning of menstruation<sup>10</sup>.

Awareness of the possible consequences of unprotected sex including sexually transmitted diseases and the possibility of pregnancy at first coitus, among this group of students is also low. The only sexually transmitted infection known by majority of them was HIV/AIDS and only about a third of them knew about gonorrhoea. This low knowledge of sexually transmitted infections may be due to the fact in the northern part of the country; most adolescents are not expected to be sexually active. Hence, it may be culturally and religiously inappropriate and unnecessary for older persons to enlighten adolescents about the dangers

of having unprotected sex and the various sexually transmitted infections. Given the generally high level of sexual activity and the consequent high rate of STI spread among adolescents, this implies that there is a risk of being infected and not knowing it, among this group of adolescents. The low awareness of possibility of pregnancy at first coitus is comparable to findings of a survey by Makinwa-Adebusoye<sup>11</sup> which showed that 60% of youths did not know that pregnancy was possible at first coitus.

Furthermore, less than half of them (48%) reported that they had been able to discuss about the developmental changes occurring in their bodies as a result of puberty with someone. Of this proportion, a third were friends (33%), while about a quarter each were parents (27%) and teachers (23%). This finding confirms several other findings that many adults often shy away from providing reproductive health information to adolescents. This is often due to their discomfort about the subject and / or the false belief that providing sexual and reproductive health information will encourage increased sexual activity<sup>12</sup>. The effect of not providing adequate information can be adverse because, if timely and appropriate information is not provided, false notions and misconceptions may be gathered from the wrong sources which may lead to risky sexual behaviour.

It is noteworthy that more adolescents in co-educational schools were observed to have some knowledge about the menstrual cycle, the possibility of pregnancy at first coitus and pregnancy

prevention. Indeed school type was observed to have a significant relationship with the knowledge of the menstrual cycle, the awareness of possibility of pregnancy at first coitus and knowledge of pregnancy prevention. This could be due to the fact that since both sexes are together in the school, they are better able to observe the pubertal changes that occur in their sexes and in the opposite sex, and may seek to find answers to the phenomena observed. This may explain why those in boys' only schools were least informed about the menstrual cycle: there may not be instances to provoke their curiosity about such issues.

Moreover, more of those in co-educational schools also reported that they were involved in relationships with the opposite sex and were sexually active. The reason for this is not far-fetched: there is easier access and better freedom of relationship with people of the opposite sex among students in co-educational schools, hence relationships and sexual activity may occur.

Most of the respondents were of the opinion that adolescents should not be involved in premarital sex and less than a tenth reported that they were sexually active. This percentage is much lower than ARFH's finding among Oyo State adolescents, which revealed that nearly 40% of the adolescents were sexually active. However, the opinion of this group of adolescents reflects the cultural and religious beliefs of the societies to which these adolescents belong. The fact that almost a third of them were not

allowed to answer any question on sexual activity also suggests that it is normal for adults to 'shield' adolescents from discussions about sexuality. However the detail that about a third of them (30%) was in support of the use of contraceptives among adolescents to prevent pregnancy suggests that the sexual behaviour of the adolescents may contradict the traditional norms and religious inclinations of their society. It is not uncommon for youths to underreport sexual activity especially in communities where premarital sex is frowned at. However this may restrict access to youth friendly reproductive health counseling and services which may serve to prevent the incidence of unwanted pregnancies and sexually transmitted infections among them.

Majority (84%) of the respondents felt that young people should be provided with reproductive health information. Their eagerness to learn about reproductive health issues that concern them should encourage urgent attention and intervention. A similar study of sex education programs in South Africa also showed that youths wanted more information, including help with decision making and coping skills, and the opportunity for individual counseling with someone they trusted<sup>13</sup>. Without doubt appropriate sexuality education from acceptable sources can result in young adults delaying first intercourse or, if they are already sexually active, in using contraception<sup>14</sup>. Virtually, all studies conclude that sex education does not lead to earlier or increased sexual

activity. There is a need to assure parents and teachers as well as health workers that providing appropriate information to adolescents will not increase promiscuity but will actually promote responsible choices and sexual behaviour.

Nonetheless the fact that the preferred sources of information varied according to the different aspects of reproductive health should not be ignored. Their preferred sources of reproductive health information must be taken into consideration when planning sexuality education programmes. However the most competent and authoritative sources of information should also be considered. Unless trained and equipped with the right information, peers who provide reproductive health information are usually as uninformed themselves on issues such as safe period, sexually transmitted infections and pregnancy prevention. If peers are to provide reproductive health information to their mates, they should be trained as peer educators who can serve as role models and sources of appropriate information to their mates. The low preference of teachers as source of reproductive health information is an indictment of the school system. The upsurge of Life Planning Education being introduced into the schools should improve the capacity of teachers to handle a more authoritative education of adolescents on sexual and reproductive health information. This will enhance the acceptability of the messages and will increase the likelihood of achieving the best result.

## **Conclusion**

This study has attempted to reveal the reproductive health knowledge and sexuality education needs of adolescents in north-eastern Nigeria. It has brought to light the fact that their knowledge of reproductive health issues that affect them is deficient and that they are also interested in acquiring more information. However their preferred sources of information should be considered.

The roles of parents, health workers, peers and teachers in giving reproductive health information have been clearly demonstrated in this study. There should be a concerted effort among this group of people to ensure that adequate reproductive health information reaches the target population in the most appropriate and acceptable way.

## **Acknowledgement**

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