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Sexual health knowledge, attitude and risk perception among in-school and out-of-school female adolescents in Onitsha, Anambra State, Nigeria

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Abstract

Aim: Young people need protective information and skills in order to reduce the risk associated with unsafe sex. This study assessed and compared the sexual health knowledge, attitude and risk perception of in-school and out-of-school female unmarried adolescents in Onitsha North Local Government Area, Anambra State, Nigeria.

Methods: A comparative cross-sectional design was used in which 391 in-school female adolescents (mean age: 15.9±1.4 years) were selected from 25 private and 17 public schools in Onitsha North Local Government Area, Anambra State, Nigeria using multistage sampling method. A comparison group of 392 out-of-school female adolescents (mean age: 15.5±2.5 years) was also selected from a major market in the same Local Government Area using cluster sampling technique. Data was collected from the respondents with pre-tested, interviewer-administered questionnaires on reproductive and sexual health knowledge, risk perception and attitude, sexual behaviour, contraceptive knowledge and sources of sexual health information.

Results: In-school girls demonstrated better knowledge of sexual and reproductive health compared to their out-of-school counterparts. The awareness of fertile period, contraception methods, STI and HIV transmission and prevention were all significantly better among the in-school adolescents compared to their out-of-school counterparts ($P<0.05$). They also had markedly higher risk perception of getting pregnant ($P<0.05$) or acquiring HIV infection ($P<0.05$) compared to their out-of-school counterparts.

Conclusion: About 21% of adolescents in this study area were involved in risky sexual behaviour and this was higher among the out-of-school adolescents than their in-school counterparts. All stakeholders in the state and the Local Government Area should come together and develop interventions that would improve the sexual health knowledge and sexual risk perception of the adolescents.

Keywords: attitude, female adolescents, in-school, knowledge, Nigeria, Onitsha, out-of-school, risk perception, sexual health.

Introduction

Adolescents (10-19 years), especially females, are most vulnerable to unsafe sex. They also bear the brunt of the consequences. It is estimated that nearly two-thirds of premature deaths and one-third of the total disease burden in adults are associated with behavioural factors that began in youth and unprotected sex is mentioned among these factors (1). Most studies and interventions on adolescents in sub-Saharan Africa and Nigeria target in-school adolescents because they are easily accessible, easier to organize and monitor compared to those who are not in school. However, most of the secondary school age youths in Nigeria are not in school (63% of boys and 79% of girls) (2). Worldwide, about 120 million school-aged children are out of school and slightly more than half of these are girls and one-third of these children are in Sub-Saharan Africa and 10% in Nigeria (3). A recent study in Anambra state, Nigeria, reported that 43% of pregnant girls were expelled from school and none was recalled back (4). Similar studies conducted in Botswana also reported that most pregnant teenagers drop out of school (5).

Studies have shown that most out-of-school adolescents do not live with their parents and are found most times on the street, market places or motor parks hawking or serving as shop assistants to others (6-9). This is why most are vulnerable to unsafe sex and have lower sexual health knowledge compared to their in-school counterparts. Adolescents seek reproductive and sexual health information from a variety of non-formal sources that include peers, pornography and magazines. The unguided youth usually experiment with the information received and often become exposed to STIs, unwanted pregnancy among others. Young people need protective information and skills in order to reduce the risk associated with unsafe sex. Studies in other parts of Nigeria showed in-school adolescents reporting teachers and parents as their main sources of information while out-of-school adolescents reported friends and the media as their main sources of information on sexual health (10,11). The findings are consistent with studies carried out in other African countries like in Uganda where as many as 69% of out-of-school adolescents receive their information from their peers compared to only 8% of their counterparts (12). Research has shown that the knowledge of out-of-school adolescents on sexual health issues is poor. A study carried out in Lagos reported that two-fifths of respondents did not know that pregnancy could occur during their first sexual intercourse, most felt there was no risk associated with sexual intercourse and some had misconceptions that abstinence after menarche was harmful. Many of participants also felt that having sex was necessary to show love in relationships (13). In various studies, preferred sources of sexuality information include the health workers and parents (10,14-16). This is because they give reliable information unlike peers who could give wrong and misleading information.

The out-of-school adolescents are not easily accessible, because they are always on the move and not available for follow-up activities (12). Therefore, it is important to clarify the needs of both groups taking into consideration the social and environmental factors, peer norms, beliefs and values of the different groups in order to develop and implement successful prevention programmes for the two groups.

Onitsha, Nigeria, holds the largest market in West Africa, and second only to Lagos in youth concentration. Therefore, an area of large youth concentration such as Onitsha is most suited for this proposed research. The objectives of this study were to assess and compare the sexual health knowledge, attitude and risk perception of in-school and out-of-school female unmarried adolescents in Onitsha North Local Government Area (LGA), Anambra State, Nigeria.

Methods

Design and study area

A cross-sectional, comparative study was carried out in 2012 including unmarried in-school and out-of-school female adolescents aged 10-19 years residing in Onitsha North LGA in Anambra State, Nigeria. The Onitsha main market, reputedly the largest in West Africa, enjoys large patronage by traders and visitors from all over Nigeria and virtually all West African countries. There are other satellite markets (about 30) to relieve the enormous pressure on the main market. Many out-of-school children are found in every part of the market hawking virtually anything. Some are in the market as shop assistants, while some are left entirely on their own in some stores. This constitutes the setting for the out-of-school aspects of this study. Also, the Onitsha North LGA has 25 private schools and 17 public schools, giving a total of 42 schools. There are 22 mixed schools, 12 boys' only schools and 8 girls' only schools. Some of the schools belong to the mission, some a government-owned, while the rest are private schools.

Study population

The study population consisted of unmarried female adolescents between the ages of 10-19 years and comprised: a) In-school adolescents and b) Out-of-school adolescents. For in-school, only those in Senior Secondary School One to Senior Secondary School Three (SSS1-SSS3) were considered for the study for comparison with their counterparts. This is because most of the out-of-school adolescents are within the age range of those in these classes than the classes below. For out-of-school adolescents, those that had never been to secondary school, finished primary school but did not continue or had dropped out of secondary school were considered eligible. The exclusion criteria included, for in-school, all the post-secondary school adolescents, those with hearing, speech and mental disabilities; and for out-of-school, all adolescents employed or unemployed who had finished secondary school and those with mental, hearing or speech disabilities.

Minimum required sample size was determined for comparison of two independent groups (in-school vs. out-of school female adolescents) (17). Based on reports from previous studies conducted in Nigeria (13,18) and an anticipated response rate of 90%, a total of 236 individuals constituted the minimum sample size. However, it was decided to recruit a total sample of 800 female adolescents (400 among in-school adolescents and 400 among out-of school adolescents) in order to considerably increase the power of the study.

Selection of in-school adolescents consisted of a two-staged sampling technique which employed stratified sampling method in the first stage and simple random sampling method in the second stage. Secondary schools in the area were stratified into four categories as follows: two female-only private, six female-only public, 17 mixed private and five mixed public schools. From each of the strata, one school was selected using stratified random sampling technique. From each selected school, 100 respondents were chosen using simple random sampling method and ensuring proportionate representation from classes SSS1-SSS3 reaching a total sample size of 400 respondents.

Out-of-school adolescents were selected using cluster sampling technique as was done in previous studies (12,19). The market is estimated to have more than 60 clusters. Clusters of 30 were selected by simple random sampling from the sampling frame containing the list of all the clusters twice (13). Using the WHO cluster sampling method, seven consenting adolescents were selected from each cluster until a total of 400 respondents was reached. Since the clusters were in different directions, a bottle was spun and the direction of its mouth was used to show the starting point of the study.

Data collection

The same pre-tested interviewer-administered questionnaires were used for both in-school and out-of-school adolescents to ensure uniformity. The questionnaires were pretested among 20 in-school adolescents and 20 out-of-school adolescents in Nnewi North LGA for suitability, reliability, acceptability and appropriateness.

The questionnaires were used to collect information on variables such as: demographic characteristics, sexual health knowledge, attitude and HIV risk perception, pattern of sexual behaviour, contraceptive use and sources of sexual health information.

Eight hundred questionnaires were handed out, but 783 were returned (391 for in-school and 392 for out-of-school) – yielding an overall response rate of approximately 97.9%.

Data analysis

SPSS version 17 was used for data entry and analysis. Chi-square test was used to compare proportions of the categorical variables and t-test for comparison of mean values of the numerical variables. Differences and associations yielding p-values ≤ 0.05 were considered statistically significant.

Results

The mean age of in-school girls was 15.9 ± 1.4 years and that of the out-of-school girls was 15.5 ± 2.5 years. Most respondents in both groups were Catholics, though more predominant among in-school girls (59.8%) as shown in Table 1. Majority (57.9%) of the out-of-school girls lived most of their time with relatives, either of the two parents, friends and boyfriend compared to 77.7% of the in-school girls who lived most of their time with both parents (P=0.001).

Table 1. Socio-demographic characteristics of the groups [numbers (column percentages)]

Socio-demographic characteristics	In-school (N=391)	Out-of-school (N=392)	P-value*
Age (in years):			
10-13	9 (2.4)	84 (21.4)	0.001
14-15	135 (34.5)	91 (23.2)	
16-17	204 (52.1)	118 (30.1)	
18-19	43 (11.0)	99 (25.3)	
Religion:			
Roman Catholic	234 (59.8)	187 (47.7)	0.001
Protestant	90 (23.0)	132 (33.7)	
Pentecostal	54 (13.8)	69 (17.6)	
Islam	4 (1.0)	4 (1.0)	
Others-Sabbath, Jehovah's Witness	9 (2.4)	0 (0.0)	
Who they live with most time?			
Both parents	297 (77.7)	162 (43.9)	0.001
Relative	31 (8.4)	133 (35.7)	
Either parent	33 (9.0)	55 (14.9)	
Friends	4 (1.4)	23 (6.2)	
Boyfriend	1 (0.3)	9 (2.4)	
Other	2 (0.5)	0 (0)	

* Chi-square test.

In-school girls demonstrated better knowledge of sexual health compared to their peers that were out-of-school, as shown in Table 2. They had statistically significant knowledge of

fertile period compared to their out-of-school counterparts (P=0.001). However, less than 30% of girls in both groups were aware of the fertile period in a woman's cycle. Also, the in-school respondents had better awareness of contraceptive methods, types of STIs and HIV transmission and prevention than the out-of-school respondents, all of which were statistically significant.

Table 2. Sexual health knowledge of the groups [numbers (percentages)]

Knowledge of sexual health	In-school	Out-of-school	P*
Knowledge of fertile period:			
During menstruation	45 (11.5)	76 (19.4)	0.001
Immediately after menstruation	124 (31.8)	95 (24.2)	
Half way between two periods	108 (27.7)	40 (10.2)	
Don't know	109 (27.9)	181 (46.2)	
Knowledge/Awareness of contraceptive methods:†			
Condom	285 (72.9)	267 (68.1)	0.001
Abstinence	120 (30.7)	98 (25.0)	
Oral Pills	84 (21.5)	60 (15.3)	
Safe period	57 (14.6)	14 (3.6)	
Injectables	38 (9.7)	28 (7.1)	
Withdrawal	47 (12.0)	13 (3.3)	
Others	2 (0.5)	0 (0.0)	
None	52 (13.3)	75 (19.1)	
Knowledge/Awareness of HIV/ AIDS/STIs:†			
HIV/AIDS	383 (98.0)	383 (97.7)	0.002
Gonorrhoea	264 (67.5)	217 (55.4)	
Syphilis	190 (48.6)	163 (41.6)	
Candidiasis	143 (36.6)	108 (27.6)	
Chlamydia	13 (3.3)	12 (3.1)	
Herpes	18 (4.6)	8 (2.0)	
Others	11(2.8)	8(2.0)	
None	41 (10.5)	75 (19.1)	
Knowledge of HIV: HIV transmission can be:†			
By blood transfusion and sharing of sharp needles or blade	302 (77.2)	315 (80.4)	0.001
Through mother to child transmission	171 (43.7)	97 (27.8)	
By sharing food with a person with HIV	33 (8.4)	64 (16.3)	
Through mosquito bite	24 (6.1)	66 (16.8)	
By witchcraft or supernatural means	8 (2.1)	30 (7.7)	
Reduced by using condom	125 (32.0)	47 (12.0)	
Reduced by not having sex at all	151(38.6)	36 (9.2)	

* Chi-square test.

† Multiple responses.

The commonest methods of contraception known to both groups were condoms, followed by abstinence. Less than 50% in both groups were not aware of other methods of contraception. Almost all adolescents in both groups (98%) were aware of HIV as a type of STI, followed by gonorrhoea, syphilis and candidiasis. More than 50% of the girls in both groups knew that HIV can be transmitted by blood transfusion and sharing of sharp needles or blade. Sixteen percent of out-of-school girls had the misconception that HIV can be transmitted by sharing food with an infected person and also through mosquito bites compared to less than 10% of the in-school girls. Only 12% of the out-of school girls believed that HIV can be reduced

using condoms, and a lower proportion of 9% believed it can be reduced by not having sex at all. This is in comparison to in-school girls with 32.0% and 38.6%, respectively (Table 2). Most of adolescents thought that a single sexual intercourse was enough for one to become pregnant or acquire HIV infection (Table 3). In-school girls had better perception of risk of getting pregnant ($X^2=16.31$, $P=0.001$) or acquiring HIV infection ($\chi^2=21.98$, $P=0.001$), following a single sexual exposure. However, a greater proportion of their out-of-school peers perceived their chance of acquiring HIV to be high ($\chi^2=20.03$, $P=0.001$). Although most of adolescents could not rate their risk of acquiring HIV infection, most of them felt that their chance of getting the disease is nil or low. Furthermore, although majority of adolescents believed that AIDS is real, in-school girls demonstrated better attitude. Two hundred and forty five (62.7%) in-school girls compared to 36.0% out-of-school girls did not agree that girls should be sexually experienced prior to marriage. Similarly, a significant proportion of adolescents agreed that unmarried couples should use condom sex ($\chi^2=27.84$, $P=0.001$) (Table 3).

Table 3. Knowledge, attitude and risk perception [numbers (column percentages)]

Attitude and risk perception	In-school	Out-of-school	P*
Number of sex before one can become pregnant:			
Once	307 (78.5)	257 (65.6)	0.001
2-5 times	54 (13.8)	55 (14.0)	
>5 times	22 (5.6)	25 (6.4)	
Don't know	17 (4.4)	57 (14.5)	
Number of sex before one can get HIV infection:			
Once	312 (79.8)	254 (64.8)	0.001
2-5 times	55 (14.1)	48(12.3)	
>5 times	14 (3.6)	26 (6.6)	
Don't know	21 (5.4)	64 (16.3)	
Perceives self at risk of acquiring HIV infection:			
None	117 (29.9)	86 (21.9)	0.001
Low	29 (7.4)	40 (10.2)	
Moderate	15 (3.8)	8 (2.0)	
High	9 (2.3)	30 (7.7)	
Don't know	221 (56.5)	228 (58.2)	
A girl should have sexual experience before marriage:			
Agree	105 (26.9)	89 (22.7)	0.001
DNK/Unsure	41(10.5)	162(41.3)	
Disagree	245 (62.7)	141 (36.0)	
Do you believe that AIDS is real?			
Yes	372 (95.1)	358 (91.3)	0.029
No	9 (2.3)	24 (6.1)	
Don't know	10 (2.6)	10 (2.6)	
Unmarried couples should use condom during sex:			
Agree	148 (37.9)	128 (32.7)	0.001
Disagree	159 (40.7)	113 (28.8)	
Don't know	84 (21.5)	150 (38.3)	

* Chi-square test.

Discussion

A major threat to health of the adolescent stems primarily from their sexual behaviour which is partly influenced by lack of knowledge of reproductive health issues. For example, only a

small proportion of both groups knew that a woman is likely to become pregnant half way between periods and even a smaller proportion of out-of-school respondents (10%) significantly differed from in-school adolescent (28%) in this regard. This is consistent with the finding of the NDHS (2008) where only 19% of all women knew the women's' fertile period (20). The study conducted in the northern part of Nigeria showed a lower result because only 3.1% knew when ovulation occurs (21). In South-Africa (22), it is 11%, while it is higher in Ethiopia (23) with 48%. This poor knowledge of fertile period amongst Nigerian adolescents may be the reason why the level of unwanted pregnancies and abortions is high. Currently, it is estimated that 23% of adolescents in Nigeria have begun child bearing (20). This finding strengthens the need to educate adolescents on reproductive and sexual health issues. However, a large proportion of both groups in this study knew that pregnancy is likely to occur at first sexual contact. This finding is consistent with the studies carried out in three states in Northern-Eastern Nigeria (49%) (15) and Lagos (60.5%) (24), but slightly lower with that carried out in Ethiopia (48%) (23).

A higher percentage of the in-school girls had better awareness of contraceptive methods than the out-of-school girls. The condom is mostly known by both groups followed by abstinence and oral pills. This agrees with findings of other studies conducted among adolescents (6,25-30). Adolescents and most young people have high awareness of condoms than most contraceptive methods (26). This is probably due to the much publicity given to preventive measures such as the condom with the onset of HIV pandemic; sometimes it is even distributed free of charge to the sexually active individuals. Ninety-eight percent of the two groups were aware of HIV/AIDS and this is consistent with the figures from the 2008 NDHS (20) and also with findings of studies carried out in Ghana (25), Malawi (27) and Uganda (28). Overall, the in-school adolescents significantly had better knowledge of HIV transmission and prevention than the out-of-school counterparts, 16.8% believed that mosquitoes can transmit HIV and only 9.2% believed that condom can prevent HIV transmission. This is not surprising as educational attainment is positively associated with increased awareness of HIV methods as reported in the 2008 NDHS (8) and other African countries (25,27-28). Both groups had better awareness of HIV than other STIs. This is common with most studies involving adolescents and is not surprising because of the pandemic nature and publicity given to HIV infection (13,16,25,27,28).

It is a common finding in studies involving the youth to discover that most do not consider themselves at risk of contracting HIV (25,27,28). In this study, more than half of the respondents in both groups do not consider themselves at risk or do not know that they are at risk of acquiring HIV infection. Misconceptions, ignorance, poverty, desire for pleasure and sex under the influence of alcohol amidst other factors may provide the possible explanation for the low risk perception (31). However, the in-school girls significantly had better perception of risk of getting pregnant ($\chi^2=16.31$, $P<0.05$), or acquiring HIV infection ($\chi^2=21.98$, $P<0.05$). They also had better attitude than their out-of-school counterparts. Overall, most disagree that girls should have sexual intercourse before marriage. Studies done in Lagos (13), Ethiopia (23) and Portugal (32) have also reported a similar finding.

Ninety-nine percent of the respondents affirmed that people had talked to them on issues of sexuality. In-school respondents had received their information mainly from parents and school teachers, while out-of-school girls had received information from youth organizations, parents and friends. This is consistent with results of similar studies done in Owerri (10), Benin (11) and in four other African countries (16). In this study, in-school adolescents significantly had more knowledge on sexual health than out-of-school adolescents. Involvement in schools and plans to attend higher education are all related to less sexual risk-

taking and lower pregnancy. However, their knowledge of many sexual health issues was poor; a significant number of both groups did not know their fertile period and had some misconceptions of HIV/AIDS.

Our study may have some limitations. Due to the sensitive nature of the topic, some respondents found it difficult to respond to some questions. Furthermore, some of the parents were not willing to allow their adolescent children to be interviewed, especially for the out-of-school girls. There was also the problem of privacy in the market. However, in order to circumvent these problems, painstaking explanations on the purpose and benefits of the study were offered to all adolescents and a good number responded positively thereafter. In addition, our findings should be interpreted with caution due to the cross-sectional nature of our study design.

In conclusion, this study has revealed that in-school respondents showed higher knowledge of sexual and reproductive health issues than their out-of-school counterparts, probably because of the effect of the school environment. They had better knowledge of HIV transmission and prevention methods, STIs and contraception. However, both groups had low knowledge of fertile period and other forms of contraception. The in-schools girls also had better risk perception of HIV/AIDS and demonstrated better attitudes than the out-of-school girls towards pre-marital sex and condom use.

It is therefore recommended that out-of-school adolescents should be targeted to go through behavioural change communication (BCC) on sexual and reproductive health issues. Using the findings of the study as a baseline data, the Ministry of Health and Education, faith organizations, international and non-governmental bodies and all adolescent stakeholders should be encouraged to collaborate and cooperate with opinion leaders into impacting and improving the reproductive and sexual health knowledge of adolescents more so for the out-of-school adolescents. These could also happen by training and retraining more teachers and peer educators on issues of reproductive and sexual health for impartation on their students and their out-of-school counterparts.

Parents are the primary sexual educators of the children. Parents should be sensitized on the importance of providing a supportive home environment; maintaining strong ties with them and giving appropriate information on sexual issues according to their ages. This will bring about a level of family connectedness that will effect positive changes in the sexual behaviour of the adolescents. The responsibility of sensitizing parents can be taken up by the Ministry of Women Affairs with cooperation from faith-based organizations, representatives of market women, parents, teachers association and other bodies.

Conflict of interest: None declared.

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objectives and benefits of the research to them. They were assured of no harm in participation and were told that participation is entirely voluntary.

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