



## Adeneye AK<sup>1\*</sup>, Erinosh O A<sup>2</sup>, Adeneye AA<sup>3</sup> and Obasi CC<sup>4</sup>

<sup>1</sup>Public Health Division, Nigerian Institute of Medical Research, 6 Edmond Crescent, P.M.B. 2013, Yaba, Lagos, Nigeria

<sup>2</sup>Department of Sociology, Olabisi Onabanjo University, Ogun State, Nigeria

<sup>3</sup>Department of Pharmacology, Lagos State University College of Medicine, Lagos, Nigeria

<sup>4</sup>Department of Psychology, Faculty of the Social Sciences, University of Ibadan, Ibadan, Nigeria

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**\*Corresponding author:** AK Adeneye, Public Health Division, Nigerian Institute of Medical Research, 6 Edmond Crescent, P.M.B. 2013, Yaba, Lagos, Nigeria, Tel: +234-805-788-7698; +234-816-945-3782; E-mail: oakadeneye@yahoo.co.uk

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### Research Article

## Factors Associated with Unplanned Pregnancy among Unmarried Adolescents in Selected Communities of Ogun State, Nigeria

### Abstract

Unplanned pregnancy is a leading reproductive health problem among unmarried adolescents in Nigeria. A clinic and community survey of 1,041 respondents in selected communities of Ijebu North local government area of Ogun State, Nigeria, showed that a substantial proportion of the female respondents (21.5% urban and 8.8% rural) had their first child during adolescence. 11.8% of the pregnant female respondents interviewed were unmarried adolescent girls who rarely used contraceptives and lacked access to sexuality education before becoming pregnant. Child-neglect (50.4%) and ignorance of sex-related issues among adolescents (37.5%) were reported as the proximate causes of the adolescent pregnancy in the communities studied. Many of the respondents (49.1% urban and 69.1% rural) condemned the use of contraceptives by adolescents. A smaller proportion of the general respondents (9.9% urban and 20.4% rural) perceived sexuality education as inappropriate for unmarried adolescents. The findings suggest the need for appropriate educational interventions on sexual and reproductive health. Emphasis of such interventions targeting the adolescents should be on the risks associated with sex particularly if unprotected.

### Introduction

Studies have increasingly focused on adolescent reproductive health in sub-Saharan Africa and other parts of the world. This is largely due to adolescents' vulnerability to high-risk behaviours and the growing concern over the socio-economic and reproductive health problems manifesting in experimentation with drug use, unintended and unwanted pregnancy, sexually transmitted infections (STIs) including HIV/AIDS, infertility and death among this age group [1-3]. Many studies from various parts of Africa have shown increase in the incidence of premarital sexual activity among adolescents [1,4-6].

It is estimated that about 16 million women aged 15-19 years give birth each year representing about 11% of all births worldwide [7]. Ninety-five per cent of these births occur in low- and middle-income countries. The proportion of births that take place during adolescence is about 2% in China, 18% in Latin America and the Caribbean and more than 50% in sub-Saharan Africa. Half of all adolescent births occur in seven countries: Bangladesh, Brazil, the Democratic Republic of the Congo, Ethiopia, India, Nigeria and the United States of America [7]. Studies from Kenya, Nigeria and Ethiopia for

example showed a disproportionate number of unwanted pregnancy and abortion among adolescents [8,9].

In Nigeria, the incidence of unwanted pregnancy, abortions, abandoned babies and child abuse has rapidly increased, constituting a serious social problem [10]. Adolescent pregnancy is a major health concern in the country because of its association with higher morbidity and mortality for both the mother and the child [11]. Studies showed that a substantial number of unmarried young people aged 14-25 years in the country are sexually active [5,11,12]. The average age at first intercourse is 16 years and many girls become pregnant before the age of 20 years [12]. In spite of the high premarital sexual activity among the adolescents, their use of contraceptive is very low [13,14].

The number of adolescent girls aged 15-19 years who have started childbearing in Nigeria has continued to decrease over the years, yet the number remains high. Results of the 1990 Nigeria Demographic and Health Survey showed that 40% of adolescent girls aged 15-19 years sampled had either given birth or were expecting their first child [15]. In contrast, results of the 2013 Nigeria Demographic and Health Survey showed that 23.0% of adolescent girls aged 15-19 years have started

childbearing (17.0% have had a child and 5.0% are pregnant with their first child). The percentage that had started childbearing increased with age from 2.2% of those aged 15 years to 35.5% of girls aged 19 years [11]. A larger proportion of adolescent girls in rural areas compared to those in urban areas have started childbearing (32.0% versus 10.0%). A comparison of the geo-political zones of the country shows that adolescent girls in the north of the country were found to give birth at three times the rate of those in the south. The North West has the largest proportion (36%) of adolescent girls who have started childbearing, while the South East (8.0%) and South West (8.0%) have the lowest proportions [11].

Results showed that women who became pregnant when aged 15–19 years are predisposed to greater pregnancy-related risks than those older than 20 years (16–18). Although adolescents aged 10–19 years account for 11% of all births worldwide, they account for 23% of the overall burden of disease (disability-adjusted life years) due to pregnancy and childbirth. In Nigeria for example, the highest rate of low birth weight babies was reported among young mothers aged 15–19 years [19]. Similarly, studies showed that hypertensive disorders of pregnancy, cephalopelvic disproportion, iron-deficiency anaemia, obstructed labour, vesico-vaginal fistula (VVF) and/or recto-vaginal fistula (RVF) are common pregnancy-related complications in adolescents which result in higher morbidity and mortality for both themselves and their babies [20–25].

It is consequent to the pervasiveness and magnitude of the reported incidence of adolescent pregnancy in Nigeria that a study was carried out to document the distribution of pregnant women by their age and the factors associated with unplanned pregnancy among unmarried adolescents in Ogun State where there was dearth of information on these.

## Methods

### Study design and population

This was a descriptive and cross-sectional study that used both quantitative and qualitative methods together to investigate factors associated with unplanned pregnancy among unmarried adolescents in selected communities Ogun State, Nigeria.

### Study setting/area

The study was designed as a cross-sectional descriptive investigation on the factors associated with the prevalence of adolescent pregnancy. It was carried out using a combination of community and clinic surveys in six randomly selected communities in Ijebu North local government area (LGA) of Ogun State, South-West Nigeria. The LGA is one of the 20 LGAs in Ogun State, located 140km North-East of Lagos. The LGA has its headquarters in the town of Ijebu Igbo and lies at latitude 6° 57' N and longitude 4° 00' E. It covers an area of 967 km<sup>2</sup>. It is predominantly a Yoruba-speaking community with urban and rural settlements with the major occupations of the people being farming and trading [26,27]. It has a population of 280,520 people based on the 2006 National Population Census with a projected population of 372,461 people for 2015 [28]

comprising 50.3% and 49.7% males and females respectively [29], and a population growth rate of 3.2% per annum [11]. Basic social infrastructure like roads, water, formal educational institutions and health facilities abound in the area. The health facilities in particular are available in both the urban and rural communities of the LGA. There are twelve public health clinics and about thirty private hospitals/clinics in the LGA.

### Sampling procedure

Of the 1,095 respondents selected through the multi-stage sampling technique for both the community and clinic surveys, 1,041 consented to be interviewed representing 95.1% response rate.

Six communities comprising two urban (Ago-Iwoye and Ijebu Igbo) and four rural (Awa, Ilaporu, Oru and Mamu) were randomly selected for the study. For the community survey, the first stage of sampling involved a random selection of some neighbourhoods (Quarters in which the communities are divided for traditional administration) in each of the communities selected in the LGA. The second stage involved a random selection of some streets from the chosen neighborhoods. Third, some houses were systematically chosen from each selected street, while the fourth step involved the random selection of households from the streets. Thereafter, eligible persons were randomly selected for interview regardless of sex. In all, 635 respondents constituted the sample population for the community survey.

For the clinic survey, 20 of the 34 private and public health facilities in the six selected communities were randomly selected and visited. Here, a total number of 460 expectant and nursing mothers registered in each of the health facilities for antenatal and post-natal care during the 8-week survey were exclusively sampled for interview on exit from the clinic. The registers for the antenatal and post-natal clinics were used as the sampling frame using the systematic sampling technique.

Moreover, 10 of 41 pregnant adolescents identified during the clinic survey were randomly selected for in-depth interview. Also, 20 adults (10 males and 10 females) were randomly selected in the communities for in-depth interview.

### Techniques and instruments for data collection

Data were collected using semi-structured questionnaire and in-depth interview. The data collection covered a period of 8 weeks.

The same questionnaire was administered in both the community and clinic surveys. The contents of the first section of the questionnaire were mainly the identification features of the instrument and question on the location of interview. The second section of the questionnaire contained questions on the background characteristics of respondents such as age, religion, level of education, marital status, and occupation. In addition, there were questions probing the knowledge of respondent about adolescent pregnancy and the perceived cause(s) in the third section. These questions were aimed at generating responses that could provide insights on the extent

of adolescent pregnancy in the study area. Questions probing the respondents' perception on the use of contraception by adolescents were also in the third section. The last section of the questionnaire comprised of questions probing the knowledge and perception of respondents about sexuality education. Questions asked here probed the respondents' attitude to allowing adolescents have access to sexuality education.

Qualitative data were collected using interview guides during in-depth interviews with the 10 of 41 pregnant adolescents identified during the clinic survey and 20 adults (10 males and 10 females) in the communities. The contents of the interview guide mirrored those of the questionnaire.

### Ethical issues

Formal approval and consents of the local health authorities and the communities were obtained prior to the commencement of the study through trusted and respected community leaders. Permission was also obtained from the management of each of the hospitals where the survey was conducted. The informed consent of the study participants was obtained before the interviews. The study participants were made to understand the nature and purpose of the study, the potential risks and benefits of participation to them and their community, and their right to refuse or participate voluntarily. The study was conducted in accordance to the tenets of the Helsinki Declaration of 1964 as amended in 2000.

### Processing and analysis of data

Following data cleaning, the completed questionnaires were coded. The coded data were subsequently entered into the computer and analysed using the Epi Info 6.04a software [30]. The analysis was essentially descriptive reflecting the concerns expressed through the different objectives of the study. Linear frequency analysis provided the categories of tables describing the socio-demographic profile of the respondents, the differences in their knowledge, attitude and perception of the trend of adolescent pregnancy and its cause(s), the use of contraception by adolescents and attitude to allowing adolescents have access to sexuality education. Single and multiple associations between the different variables were tested at the threshold of 95% confidence interval using the comparison tests such as Chi square and regression analysis.

On the other hand, following review and correction, all transcripts from the in-depth interviews were typed with a standard word processing package and converted into ASCII Text files. These were subsequently coded and sorted using the textual analysis programme developed by Bo Summerlund and distributed by Qualitative Research Management of Desert Hot Springs, California, Textbase Beta software [31,32].

## Results

### Background of respondents

Table 1 shows a summary of the socio-demographic characteristics of the one thousand and forty-one (1,041) respondents surveyed according to their respective locality

(74.5% urban vs. 24.5% rural). Majority (64.0%) of the 705 females interviewed were covered in the clinic survey, while 36.0% were from the community survey. The ages of the respondents ranged from 14 to 72 years, and their mean age was 25 years. Their educational status showed that majority of them did not complete their secondary education, while a few barely completed primary education and were undergoing vocational training consequent to their pregnancy as at the time of the study.

### Knowledge of prevalence and causes of adolescent pregnancy

A large number (840, 80.7%) of the respondents were aware of the prevalence of adolescent pregnancy in their communities, 12 (11.6%) were not aware and 80 (7.7%) were undecided. A large number of respondents (84.7% urban vs. 69.1% rural) described adolescent pregnancy as prevalent in their localities ( $\chi^2 = 32.13$ ,  $df = 2$ ,  $p < 0.05$ )

**Table 1:** Background characteristics of respondents

	Urban		Rural		Total	
	No	%	No	%	No	%
<b>Sex</b>						
Male	257	33.1	79	29.8	336	32.3
Female	519	66.9	186	70.2	705	67.7
Total	776	74.5	265	25.5	1041	100.0
<b>Age</b>						
14-19	106	13.7	31	11.7	137	13.2
20-24	170	21.9	42	15.8	212	20.4
25+	487	62.8	179	67.5	666	63.9
Total	776	74.5	265	25.5	1041	100.0
<b>Marital Status</b>						
Never Married	247	31.8	76	28.7	323	31.0
Married	447	57.6	166	62.6	613	58.9
Others	74	9.5	13	4.9	87	8.4
NR	8	1.0	10	3.7	18	1.7
Total	776	74.5	265	25.5	1041	100.0
<b>Religion</b>						
Christianity	422	54.4	157	59.0	529	55.6
Islam	315	40.6	90	34.0	405	39.9
Others	31	4.0	12	4.5	43	4.1
NR	8	1.0	6	2.3	14	1.3
Total	776	74.5	265	25.5	1041	100.0
<b>Education</b>						
Pry & below	217	28.0	76	28.7	296	28.1
Secondary	321	41.4	110	41.5	431	41.4
Tertiary	228	29.4	67	25.3	295	28.3
NR	10	1.2	12	4.5	22	2.1
Total	776	74.5	265	25.5	1041	100.0
<b>Occupation</b>						
Student	92	11.9	37	14.0	129	12.4
Civil Servant	62	8.0	14	5.3	76	7.3
Artisan	115	14.8	36	13.6	151	14.5
Trading	469	60.4	164	61.9	633	60.8
Unemployed	20	2.6	4	1.5	24	2.3
NR	18	2.3	10	3.7	28	2.7
Total	776	74.5	265	25.5	1041	100.0
NR=No response						

When asked their perceived cause of adolescent pregnancy in the communities, 525 (50.4%) (50.0% urban vs. 51.7% rural) mentioned child neglect by parents, 390 (37.5%) (38.7% urban vs. 34.0% rural) adduced it to ignorance on the part of the adolescents about how their body works as regard sexuality. Very few (1.4%) claimed not to know the cause of adolescent pregnancy and some (10.7%) did not respond. Those who mentioned child neglect reported that it is in the process of maximising the economic benefit for the family that many parents have virtually failed in playing the necessary parental role in caring and guiding for their children particularly the girls. There was no significant difference in the pattern of responses of the respondents from the urban and rural communities studied on the causes of the prevalence of adolescent pregnancy in the LGA.

### Age at first birth among female respondents

Five hundred and sixty (79.4%) of the 705 female respondents surveyed have started child-bearing. Of the 560, 411 (73.4%) have started child-bearing had their first child at age 20–45 years while 103 (18.4%) were below 20 years when they had their first child. Few (8.2%) of them could not recall their age at first birth. According to the illustration in Figure 1, those who had their first child in their teen years in the urban communities were significantly greater than those from the rural communities ( $\chi^2 = 11.8$ ,  $df = 2$ ,  $p < 0.05$ ). Table 2 shows the age distribution of the female respondents. All 41 pregnant adolescents identified in Table 2 were never married.

The respondents' perceived ages at first birth for a woman are in the range of 25–29 years (45.0%), 20–24 years (42.1%) and 30 years and above (3.0%). This is in contrast to 66 (6.3%) who suggested 19 years and below and 38 (3.7%) were undecided. Majority of those who perceived 20–29 years as the ideal age at first birth mentioned the need for socio-psychological and physiological maturity that is attainable at this prime age range as their reason. Among those interviewed, they pointed out that at this age, the reproductive system of a woman would have fully developed for child-bearing. It was further argued that a woman at the age will be capable of taking adequate care of herself and her family of procreation, particularly the baby.

### Perception of the prevalence of adolescent pregnancy

Table 3 shows the attitude of respondents to adolescent pregnancy in their localities. More than half (55.8%) of respondents condemned the prevalence of pregnancy among adolescent girls in their localities, 38.5% were of contrary opinion and 5.7% were undecided on whether to condemn it or not. The magnitude of the joint interaction effect of independent variables including locality and sex on the attitude of respondents to adolescent pregnancy in Table 3 was significant. The individual effects of these variables derived from multiple regression analysis suggest that the locality of the respondents was the most significant variable that determined the attitude of the respondents without the intervention of other variables ( $p < 0.05$ ).

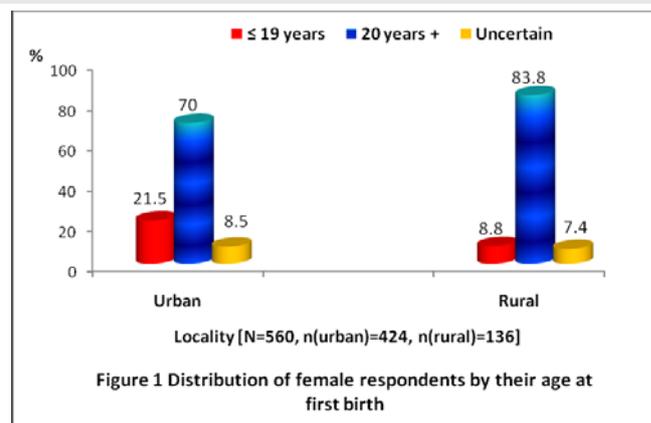


Figure 1: Distribution of female respondents by their age at first birth

Table 2: Age distribution of pregnant female respondents surveyed

Age (in years)	No	%
14-19	41	11.8
20-24	86	24.7
25-29	107	30.7
30+	111	31.9
No response	3	0.9
Total	348	100.0

Table 3: Locality and sex of respondents and their attitude to adolescent pregnancy

Locality	Not Condemn		Condemn		Undecided		Total	
	No	%	No	%	No	%	No	%
Urban	321	41.4	426	54.9	29	3.7	776	74.5
Rural	80	30.2	155	58.5	30	11.3	265	25.5
Total	401	38.5	581	55.8	59	5.7	1041	100.0

$\chi^2 = 26.9$ ,  $df = 2$ ,  $p = 0.000$

	Sex							
	Male		Female		Total		Total	
	No	%	No	%	No	%	No	%
Male	104	30.9	212	63.1	20	6.0	336	32.3
Female	297	42.1	369	52.3	39	5.9	705	67.7
Total	401	38.5	581	55.8	59	5.7	1041	100.0

$\chi^2 = 12.2$ ,  $df = 2$ ,  $p = 0.000$

NR=No response

### Respondents' awareness and use of contraceptives

Table 4 shows the respondents' level of awareness of contraceptives, STIs/HIV infection and willingness to allow their adolescent child to use contraceptives.

The indepth interviews showed that awareness of contraceptive methods was high (100.0%) among the 10 pregnant adolescent girls interviewed. The contraceptives most mentioned by the girls were the condom, birth control pills and the withdrawal method. The age of the respondents apart from their locality had a very significant effect on their awareness of the availability and use of modern contraceptives ( $p < 0.05$ ). This is not unconnected with the younger respondents' awareness of modern contraceptives than the older ones. More males (49.4%) than females (35.9%) from the survey had used at least one contraceptive method ( $\chi^2 = 20.4$ ,  $df = 2$ ,  $p < 0.05$ ). In contrast to their high level of awareness of contraceptives, only

a few (4/10, 40.0%) of the girls had ever used any of the modern contraceptive methods they knew through friends before their pregnancy. These girls admitted to have used birth control pills, which they claimed they did not know how to use correctly at some point in time, and then stopped. The reasons given for discontinuing the contraceptive use during the interviews were: "...infrequent unplanned sexual intercourse" and "...I didn't know I would get pregnant". All 10 (100.0%) pregnant adolescent girls interviewed had poor knowledge of ovulation time in relation with conception. They had the misconception that it was necessary for a woman to have sexual intercourse many times before she could become pregnant.

More males (49.4%) than females (39.6%) in the survey were willing to allow the use of contraceptives by their adolescent children ( $\chi^2 = 24.5$ ,  $df = 4$ ,  $p < 0.05$ ).

Among those interviewed, those who supported adolescents' use of contraceptives were of the opinion that it will help safeguard against unwanted pregnancy, while many of those who condemned it had the misconception that the use of contraceptives among adolescents is tantamount to condoning immorality and giving them the liberty to indulge in illicit sexual activities. Others also discredited it on the grounds of fear of the failure and side-effects of some of contraceptives. They explained that they would rather advocate for sexual abstinence for young people of this age group. There was no gender difference in the perception of contraceptive use by adolescents among those interviewed.

Table 5 shows that a high proportion (85.7%) of respondents believed that sexuality education and counseling for adolescents is important. In contrast, a small number (12.6%) of respondents had the belief that sexuality education is not necessary for the young people at their age. They believed it could encourage early sexual activity and other related immorality. The respondents' locality and level of

**Table 4:** Awareness of HIV/AIDS and contraceptive methods among respondents

Knowledge of contraceptives	Urban		Rural		Total	
	No	%	No	%	No	%
Yes	652	84.0	192	72.5	844	81.0
No	119	15.3	68	25.7	187	18.0
NR	5	0.6	5	1.8	10	1.0
Total	776	74.5	265	25.5	1041	100.0

$\chi^2 = 18.2$ ,  $df = 2$ ,  $p = 0.000$

Will you allow your adolescent child use contraceptives?						
Yes	379	48.8	66	24.9	445	42.7
No	381	49.1	183	69.1	564	54.2
NR	16	2.1	16	6.0	32	3.1
Total	776	74.5	265	25.5	1041	100.0

$\chi^2 = 51.2$ ,  $df = 2$ ,  $p = 0.000$

Aware of STIs/HIV infection						
Yes	708	91.2	217	81.9	925	88.9
No	64	8.2	45	17.0	109	10.4
NR	4	0.5	3	1.1	7	0.7
Total	776	74.5	265	25.5	1041	100.0

$\chi^2 = 17.5$ ,  $df = 2$ ,  $p = 0.000$

NR=No response

**Table 5:** Perception of respondents on the importance of sexuality education and counseling to adolescents.

Perception of respondents								
Locality	Important		Not Important		NR		Total	
	No	%	No	%	No	%	No	%
Urban	686	88.4	77	9.9	13	1.6	776	74.5
Rural	206	77.7	54	20.4	5	1.9	265	25.5
Total	892	85.7	131	12.6	18	1.7	1041	100.0

$\chi^2 = 19.8$ ,  $df = 2$ ,  $p = 0.000$

Education								
Pry & below	239	81.6	51	17.4	3	1.0	293	28.1
Secondary	365	84.7	58	13.5	8	1.8	431	41.4
Tertiary	274	92.9	14	4.7	7	2.4	295	28.3
NR	14	63.6	8	36.4	-	-	22	2.1
Total	892	85.7	131	12.6	18	1.7	1041	100.0

$\chi^2 = 35.6$ ,  $df = 6$ ,  $p = 0.000$

NR=No response

education were the two variables that significantly influenced their perception of how important sexuality education and counseling is to adolescents ( $p < 0.05$ ). Respondents resident in urban communities and those with higher education had a better perception of the importance of sexuality education for adolescents than those in rural communities and with little or no education respectively ( $p < 0.05$ ).

## Discussion

The educational and economic background of the pregnant adolescents studied are similar to the findings of the 2013 Nigeria Demographic and Health Survey [11] where the percentage of adolescents who had started childbearing decreased with increasing education while those with no education was about half of those who had begun childbearing and the lowest wealth quintile were more than twice and almost 10 times as likely to have started childbearing as those in the middle and highest quintile respectively.

The distribution of the female respondents who have begun child-bearing based on their age at first birth and the proportion of adolescent girls found to be pregnant relative to all pregnant women reported in this study showed that there is high incidence of adolescent pregnancy in the study communities. This finding is in agreement with the reported range of 4.5% to 48.2% in the records of births among mothers who delivered in the LGA between 1990 and 1994 [26] and lower than 39.8% reported by Adeneye et al [33] among pregnant women attending antenatal clinics in same area. This finding perhaps represents just a tip of the iceberg of the prevalence of unintended adolescent pregnancy in the LGA and the country at large as reported in earlier studies [9,12,13]. If this finding is anything to go by, it may contribute to rapid population growth of the country which has increased at exponential rate from 140.4 million in 2006 [28] to 167 million in 2016 [34]. This is attributable to the fact that early childbearing is positively associated with high fertility [16]. The population momentum of the country considering the young age structure of the population suggests that the population size could double within a shorter time [10]. Hence, interventions to

delay adolescent births should be developed and implemented in communities of the LGA. This is important because studies have shown that delaying adolescent births could significantly lower population growth rates as emphasised by World Health Organisation [7].

The observed high unplanned pregnancies and births among adolescents in this study predispose the affected girls to numerous immediate and long-term health complications and other latent socio-economic consequences as reported by earlier studies [7,10,24,35–38]. Consequently, appropriate maternal health care services to prevent death and disability should be developed and provided in responding to and meeting the health needs of pregnant adolescents in the study communities as emphasised by Reynolds et al [39].

The proximate causes of the prevalence of adolescent pregnancy reported in the study were child neglect and ignorance of adolescents. Results showed that adolescents in the study communities are sexually active but lacked access to adequate information on sexuality issues due to parental neglect. This could have contributed to their ignorance on the issue of sex and its consequences as reflected in the responses of the pregnant girls interviewed. Though many of the respondents admitted the importance of sexuality education and counseling for adolescents in principle, only a few of them actually had the time to discuss such issues with their children. This is confirmed in the study where pregnant adolescents interviewed reported that they never received sexuality education from any of their parents before becoming pregnant. The strong correlation between locality of residence and education of respondents and the trend of their perception of sexuality education for adolescents in Table 5 is perhaps a reflection of their commitment to traditional values and knowledge of the benefits of sexuality education. This possibly explains why more of those in rural communities and with little or no education perceived it as “not important”.

The pattern of awareness of contraceptives reported by respondents in the study according to locality of residence is similar to that reported by National Population Commission (NPC) [Nigeria] and ICF International [11]. The fact that all the adolescent girls interviewed were not married and many of them knew about contraceptives but rarely used any could perhaps be attributed to factors such as unplanned nature of sexual relations among adolescents, their poor understanding of how and why they should use contraception and the belief that it is unnecessary which were found by earlier studies [24,37,38]. Contraceptive use among the unmarried adolescent girls studied was although low yet it is higher than what was reported by National Population Commission (NPC) [Nigeria] and ICF International [11]. The low contraceptive use by the female respondents reported in the study confirmed the results of earlier studies [40–42]. The findings imply that inadequate knowledge about sex and its consequences acquired mostly from friends, the improper or non-use of contraceptives and parents' insistence on absolute abstinence from sex are major factors that could have contributed to the unintended pregnancy reported among the adolescent girls interviewed.

Appropriate parental support and intervention through parent-child communication as emphasised by Akinwale et al [5] should be fostered for the provision of simple, adequate, accurate and factual information on all changes and challenges that are associated with physical and emotional development experienced by adolescents as they transit from childhood to adulthood. This is to combat general ignorance about reproductive health issues and contraception as emphasised by Makinwa-Adebusoye [13]. Sexuality and family life education help provide a profound gateway to change in the attitude among the adolescents as it helps prepare them to make better and informed decisions [43,44]. This is evident in the findings of Steinberg [45] that adolescents who engaged in effective communication with their parents on sexuality issues are more likely than others to delay sexual intercourse.

Morally, it is encouraging that some respondents advocated sexual abstinence for adolescents. Nonetheless, the use of condoms or contraception needs to be discussed or promoted among these adolescents because the reality of the fact that they are sexually active cannot be overemphasised. With the use of condoms by those who could not abstain from sex, the incidence of unwanted pregnancy and spread of STIs/HIV will be effectively controlled and prevented to a large extent.

The illustration in Figure 1 suggests that early childbearing is more of an urban phenomenon in the communities studied. This is not unconnected with the strict social control mechanisms surrounding the issue of sexuality that restrain premarital sex more among unmarried young people in the rural communities than the urban communities [46]. This finding is however contrary to the findings of the 2013 Nigeria Demographic and Health Survey, which reported early childbearing as a rural phenomenon with 32.0% of rural women aged 15–19 years having begun childbearing compared with 10.0% from urban [11].

The trend in adolescent sexual activity shown in the results calls for concern because many of the adolescents are not only sexually active but unwanted pregnancy is rife among them. This implies the preponderance of unprotected sex among the young people and invariably their exposure to the risk of STIs and HIV infection. This suggests the need for urgent and appropriate educational interventions on sexual and reproductive health targeting this age group. In this regard, emphasis should be on the risks associated with sexual intercourse particularly if unprotected as successfully implemented through sex and HIV education programmes in some developing and developed countries [47].

The implication of the findings on poor knowledge and use of contraceptives by adolescents and high trend of unplanned pregnancies among the target population as observed in this study suggests an urgent need to sensitise and inform programme managers in the Health Department of the local government authority, parents, teachers, adolescents and health workers particularly those working in the family planning clinics about the high sexual activity of the young people, its consequences and the need to strengthen the family planning units of health facilities across the LGA to be positioned for

provision of youth-friendly sexual and reproductive health services designed to respond to and meet the health needs of the apparently sexually active young people as captured in the Nigeria's Policy on Population for Development [10]. It is expected that this will contribute to meeting a target of the Sustainable Development Goal (SDG) 3 which aims at ensuring universal access to sexual and reproductive healthcare services, information, education, including family planning [48,49].

Knowing that educational levels for girls have risen in most countries, and low education levels are closely associated with early childbearing [7], it is therefore important that the National Policy on education in Nigeria [50] with its objectives and scope emphasising compulsory free and comprehensive universal primary and secondary education for every Nigerian child particularly the girl-child needs to be adequately invested in and implemented. In addition, government should strengthen its poverty alleviation programmes, as well as involve the private sector and community participation in the basic education programme as suggested by Etuk et al. [51]. Through the poverty alleviation programmes, it becomes important to empower parents financially to be able meet up with basic financial demands of the basic education programme for their children which itself is not entirely free. Parents would also need to be enlightened, to step up their enthusiasm towards their children's education as observed by Etuk et al. [51].

## Conclusion

It is apparent that the factors associated with adolescent pregnancy in the communities have been established by the study. The study provides useful policy insights for need to strengthen and improve the adolescent sexual and reproductive health services in the study communities in particular and the LGA at large. It also highlights the need to take cognisance of the high prevalence of unwanted and unplanned adolescent pregnancy and develop strategy of expanding access to adequate and appropriate health services that will meet the health needs of young people in the studied communities and LGA as a whole.

The findings suggest the need for continuous educational interventions on sexual and reproductive health. Emphasis of such interventions targeting the adolescents should be on the risks associated with sex particularly if unprotected. The needed focus and emphasis on adolescent sexual and reproductive health to reduce the prevalence of unplanned pregnancy among adolescents is crucial to contributing to meeting health needs of this age group which a component of the targets of the Sustainable Development Goal (SDG) 3 to ensure healthy lives and promote well-being for all at all ages.

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