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Early Sexual Debut in Karu, Nigeria: A Mixed-Methods Approach to Understanding Prevalence and Its Determinants Among Female Adolescents

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ABSTRACT

Background: Early sexual debut among adolescents poses significant physical, social and mental health consequences. Despite increasing concern, limited data exist on its prevalence and determinants among female secondary school students in Karu Local Government Area.

Objective: This study assessed students' perceptions of early sexual debut, the proportion, prevalence, characteristics, and determinants of early sexual initiation.

Methods: A cross-sectional descriptive study was conducted in 5 public and 5 private schools using a convergent parallel mixed-methods design. 265 female students (SS1-SS3) were selected through multistage sampling. Quantitative data was collected using structured questionnaires and analyzed with SPSS version 27 (descriptive statistics and ANOVA/Chi-Square), while qualitative data were thematically analyzed using NVivo.

Results: 12.8% of students were sexually active, with 17.6% reporting early sexual debut. 70.6% of sexual encounters occurred with friends, and 64.7% were influenced by coercion, alcohol, or peers. Students perceived early sexual debut negatively. Major determinants included peer pressure, poor parenting, exposure to pornography, low self-esteem, and socio-economic challenges. There was significant association between prevalence of early sexual debut and types of school (public vs private) ($p = 0.017$). However, no significant association was found between sexual debut and students' age ($p = 0.535$) or family type ($p = 0.989$).

Conclusion: Early sexual debut prevalence is a concern and being in public school is more associated with early sexual debut than private highlighting the need for comprehensive sexuality programs. More studies are needed to unravel the main factors exposing students to early sexual debut in public schools.

Keywords: Adolescent; Reproductive Health; Sex Education; Cross-Sectional Studies; Female; Nigeria

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INTRODUCTION

Globally, there are nearly 1.3 billion adolescents, accounting for 16% of the world's population.[1] Sub-Saharan Africa has about 226 million of these adolescents representing about 23% of the region's population making it the largest proportion of the adolescent population. More concerningly, this population is expected to continue growing due to the region's high level of fertility.[2] Nigeria is ranked as the sixth most populous country in the world, the most populous in Africa, and one of the fastest-growing populations globally.[3-5] Over 50 million, representing 25% of that population, are adolescents.[6] These adolescents encounter a range of sexual and reproductive health challenges.[7-9] A critical issue is the transition to sexual activity, which often occurs before they have attained full physical, cognitive, and emotional maturity. Consequently, many adolescents are ill-equipped to make informed and responsible decisions regarding their sexual and reproductive health.[7] This makes them vulnerable to early sexual debut.[10-11]

The definition of the term "early sexual debut" was given as the process of engaging in coitus for the first time at exactly age 14 or before.[12] The World Health Organization (WHO) defines an adolescent as any person who falls within the age range of 10-19 years.[13] Empirical evidence has demonstrated that early sexual debut has physical, social, and mental health implications. The physical consequences include exposure to Sexually Transmitted Disease (STDs), unwanted pregnancies or even illegal abortions that are detrimental to their health. The social consequences include the tendency of having many sexual partners and interference with academic progress.[14]

Notably, there is a lack of in-depth information on sexual behaviour in younger adolescents [15-18], which makes it difficult to devise age-specific interventions for this group of people.[14] In addition, the uncertainties relating to the federal laws, including the age at which a person can get married, as well as the necessity of implementing Family Life and HIV Education (FLHE) programs more effectively, make it challenging to deal with this issue.[15-16] Anecdotal evidence suggests that sexual activity is increasing among female secondary school students aged 14 years or younger in Karu LGA, Nasarawa State. While existing studies have explored sexual debut broadly, there is limited knowledge on the determinants of early sexual debut among female students (SS1–SS3) in this area.[17] This study was therefore undertaken to examine the perceptions of early sexual debut, the proportion of sexually active students, as well as the prevalence, characteristics, and determinants of early sexual debut among this population. Statistical tests were conducted to determine the association between sexual debut, age, and family structure.

Deeper insights into adolescent sexual health challenges can inform evidence-based policies and targeted public health programs. Understanding the determinants of early sexual initiation will also help parents, teachers, and school administrators reduce risk factors and delay sexual debut.

METHODOLOGY

Area of Study

This study was carried out in the Karu Local Government Area, which is one of the 13 local governments within Nasarawa State. The total population of Karu is 216,230. The main origins are Gade, Gwari, Bassa and Gwaadara, with a small population of Hausas.[18]

The study was conducted in public and private secondary schools in Karu LGA, Nasarawa State, Nigeria. There are 24 public and 18 private secondary schools in Karu Local Government Area, Nasarawa State.[19]

Ten (10) secondary schools (five public and five private) were randomly selected for data collection, the same number used by Durowade et al. in a similar study.[20] The selected public schools were Government Secondary School Aso Pada, Government Secondary School Mararaba, Government Secondary School Barkin Ado, Government Secondary School New Karu, and Government Secondary School Bagaji. The selected Private schools were People's Comprehensive Academy, Greater Tomorrow Secondary School, Amamex International Academy, Ebenezer International Academy, and Vision School Mararaba.

Study Design

The study employed a cross-sectional descriptive design within a convergent parallel mixed-methods framework, which allowed for the integration of both quantitative and qualitative data to provide a comprehensive

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understanding of the phenomenon. A descriptive survey design was adopted for the quantitative component to capture measurable trends and patterns related to early sexual debut among female secondary school students. For the qualitative aspect, a transcendental phenomenological approach was utilized to explore the lived experiences, perceptions, and contextual factors influencing early sexual initiation. This design was considered appropriate as it combined the strengths of quantitative analysis in identifying prevalence and associations with the depth of qualitative insights into the subjective realities of the participants.

The quantitative approach assessed the proportion of sexually active students, as well as the prevalence, characteristics, and factors associated with early sexual debut, while the qualitative approach explored students' perceptions and underlying factors influencing early sexual debut. The meeting point for both methods occurred in the discussion through triangulation and convergence of findings, providing a more comprehensive and contextualized understanding of the phenomenon.

Population of Study.

The study's population comprised 638 female senior secondary school students (SS1, SS2, SS3) from both public and private secondary schools located in Karu Local Government Area, Nasarawa State, Nigeria. In Karu LGA, there are 42,048 adolescents between the ages of 10 and 19, with 24,834 of them being female.[21]

Inclusion criteria

- The inclusion criteria include all female senior secondary school students from public and private secondary schools in Karu.
- Must be a student currently registered with the secondary school in Karu LGA.
- Must be a female student between 10 and 19 years old.
- Must have provided consent for the study.

Exclusion criteria

- Female students who are not currently registered
- Male students.
- Students above the age of 19 years.
- Students who do not consent.

Sample Size Determination

The Cochrane sample size formula for a finite population was applied to determine the study's sample size, expressed as:

$$n = \frac{n_0}{1 + \left(\frac{n_0 - 1}{N}\right)}$$

$$\text{where } n_0 = \frac{Z^2 \cdot p(1-p)}{e^2}.$$

Using a 95% confidence level, 5% margin of error, 50% population proportion, and a population size of 638, the calculated sample size was 241. To account for a 10% non-response rate (24), the adjusted sample size was 265. Thus, the final total sample size comprised **265** female secondary school students.

Sampling Technique

A three-stage multistage sampling technique was employed to select the female senior secondary school respondents.

- **Stage One:** A simple random sampling technique (balloting) was used to select 10 schools (five public and five private) out of the 42 secondary schools in Karu LGA. The selected public schools were *Government Secondary School Aso Pada, Government Secondary School Mararaba, Government Secondary School Barkin Ado, Government Secondary School New Karu, and Government Secondary School Bagaji*. The selected private schools were *People's Comprehensive Academy, Greater Tomorrow Secondary School, Amamex International Academy, Ebenezer International Academy, and Vision School Mararaba*. The total sample size of 265 was then proportionally allocated to these schools based on their enrollment figures (see Table 1).
- **Stage Two:** A stratified sampling technique was applied by dividing each selected school into strata based on class level (SS1, SS2, and SS3) (see Table 1).

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Table 1: *Population and Stratified Sample Distribution by School and Class Level in Selected Secondary Schools, Karu LGA (N = 265)*

School	Total Population	Sample Size	SS1	SS2	SS3
Private Schools					
Peoples Comprehensive Academy	94	39	16	15	8
Greater Tomorrow Secondary School	55	23	9	9	5
Amamex International Academy	44	18	7	7	4
Ebenezer International Academy	20	8	3	3	2
Vision School Mararaba	25	10	4	4	2
Public Schools					
Government Secondary School Aso Pada	100	42	17	16	9
Government Secondary School Mararaba Gurku	110	46	19	17	10
Government Secondary School Barkin Ado	55	23	9	9	5
Government Secondary School New Karu East	85	35	14	13	8
Government Secondary School Bagaji	50	21	8	8	5
Total	**638**	**265**	**110**	**100**	**55**

- **Stage Three:** From each stratum, respondents were chosen using simple random sampling through a random number generator, ensuring that all eligible students had an equal chance of selection.

For the qualitative component, data were collected through Focus Group Discussions (FGDs) with female secondary school students aged 10–19 years, using a purposive non-probability sampling technique. A total of six FGDs were conducted: three in private schools and three in public schools, with one group drawn from each class level (SS1, SS2, and SS3).

Study Instruments

Two instruments were used to collect data from respondents. A structured questionnaire printed on paper was used for the survey because the students do not have access to their phones during school hours, while FGD on a face-to-face basis was used for the qualitative data.

The structured questionnaire was adopted from previous studies by Durowade et al. and modified.[17] The questionnaire was divided into sections according to the study's objectives. Section A comprised demographic data of the respondents. Section B included a proportion of sexually active students. Section C focused on the prevalence of early sexual debut, and the last section (Section D) comprised questions on factors associated with early sexual debut. The face and content validity technique ensured the questionnaire's validity. The instrument was then submitted to experts on the subject for assessment of its relevance, clarity, and logical accuracy. Corrections were made before data collection. A test-retest procedure was carried out by administering the questionnaire to 27 students from a different secondary school that was not part of the 10 schools initially sampled, with the test being given twice at one-week intervals. The data gathered during both sessions were analyzed to determine if they achieved the desired reliability rate. The result revealed Cronbach's alpha coefficient of 0.9, indicating excellent internal reliability. Four focus group discussions (FGDs) were conducted using the FGD Guide, based on the objectives of studies 2, 3, and 4. Each FGD comprised 10-15 respondents. A total of 78 students participated in the FGDs.

Data Collection Methods

2 trained research assistants collected the data. The ethical clearance obtained from the Nasarawa State Ministry of Health was shown to the principal of each school. Then, the research assistants were introduced to the class teachers, who introduced them to the randomly selected female students. Then, informed consent was solicited from the female students. The questionnaires were administered on paper face-to-face by the two trained research assistants in English, assisted by the teachers. The six (6) FGDs were conducted by the trained research assistants face-to-face in English and recorded using a mobile phone recorder.

Statistical Analyses

The quantitative data collected from the questionnaires were coded and entered manually into SPSS version 27.

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This analysis was conducted using descriptive statistics, including frequency counts and percentages. Hypotheses were analysed using ANOVA inferential Statistics.

The qualitative data from the recorded FGDs were transcribed verbatim. The transcripts were cleaned and read, then reread to ensure understanding. The transcribed files were then imported into NVivo version 15 software, where they were coded. The coding was conducted inductively, based on the study's objectives. This was done based on thematic analysis principles and presented in themes and subthemes. The major themes and subthemes codebook was downloaded and presented in a narrative form to facilitate a clear understanding of the codes. Examples of quotes and excerpts were added to the narration to enhance clarity.

Ethical Considerations

An ethical clearance obtained from the State Health Research Committee of the Nasarawa State Ministry of Health (NHREC Protocol No: 18/06/2017). Informed consent was obtained from the school principal and the school's guardians. For students 18 years and above, informed consent was obtained directly from them. Anonymity and confidentiality were further assured. The data collection process honoured their wishes and rights, including the ability to withdraw from the study at any time. Participants were treated with courtesy and dignity, ensuring their rights and well-being were safeguarded. All results from this study were handled with a strong commitment to confidentiality.

RESULTS

Quantitative Data

The quantitative data collected via structured questionnaires were analyzed using SPSS version 25, and the findings are presented below. A total of 265 questionnaires were distributed to participants, and remarkably, all 265 were retrieved, resulting in a 100% response rate. This high response rate could be attributed to the face-to-face administration of the questionnaires, as the data collectors ensured that each questionnaire was collected immediately after completion by the students.

Table 2: ***Socio-demographic characteristics of respondents n = 265.***

Socio-demographic Characteristics of the Respondents		Frequency	Percent
Age Group	10-14 years	39	14.7%
	15-19 years	226	85.3%
Religion of Students	Islam	33	12.5%
	Christianity	231	87.2%
	Others	1	0.4%
Class Level of Students	SS1	110	41.5%
	SS2	100	37.7%
	SS3	55	20.8%
Family type	Polygamous	104	39.2%
	Monogamous	161	60.8%
Tribe of Students	Gwari	6	2.3%
	Idoma	113	42.6%
	Others	3	1.1%
	Bassa	4	1.5%
	Igala	139	52.5%%
Type of School	Public School	142	53.6%
	Private School	123	46.4%

Source: Field Survey, 2025.

Table 2 shows that the majority of respondents, 26 (85.3%), were 15-19 years old. The majority, 231 (87.2%), identified as Christians, with a monogamous family type, comprising 161 (60.8%). The majority, 139 (52.5%), were from the Igala tribe, while most, 142 (53.6%), were from public schools.

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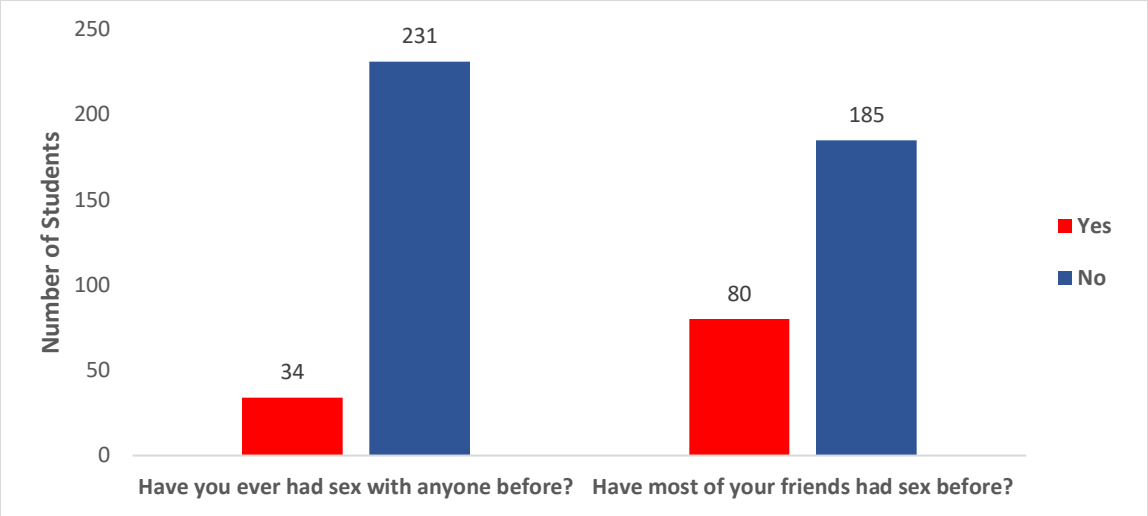

Source: Field Survey, 2025.

Figure 1: ***Proportion of Sexually Active Students. n = 265.***

Figure 1 above shows that only 12.8% of the students are sexually active. More so, 30.2% said their friends are sexually active.

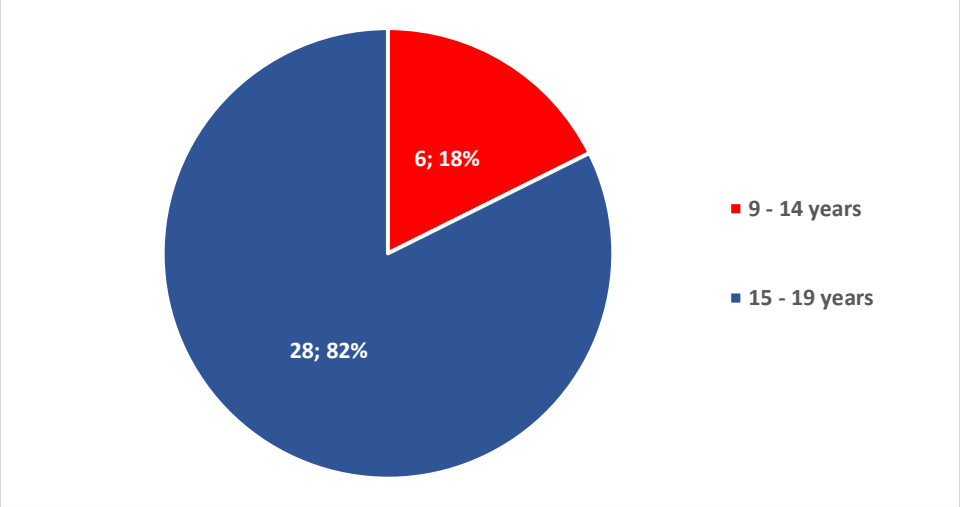

Figure 2: ***Prevalence of Sexual Debut Age n = 34.***

Figure 2 shows that the prevalence of early sexual debut was 17.6%, as only 6 out of the 34 respondents who had engaged in sexual activity did so at or before the age of 14. On the other hand, the majority, 28 (82.4%), reported their sexual debut between the ages of 15 and 19.

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Table 3: *Respondents' Sexual Debut Experiences and Circumstances n = 34.*

Variable	Response	% (n)
Number of sexual partners	0	2.9 (1)
	1	47.1 (16)
	2	26.5 (9)
	3	23.5 (8)
First sexual partner	Friend	70.6 (24)
	Teacher	2.9 (1)
	Husband	14.7 (5)
	Others	11.8 (4)
Circumstances of first sexual exposure	Willingly	35.3 (12)
	Unwillingly	17.6 (6)
	Influence of friends	20.6 (7)
	Influence of alcohol	26.5 (9)

Source: Field Survey, 2025.

Table 3 shows that among the sexually active respondents, the majority, 16 (47.1%), reported having only one sexual partner. However, 50% had multiple sexual partners. Most of them (70.6%) had their first sexual encounter with friends, while only 35.3% reported that their first sexual experience was voluntary.

Table 4: *Perceived Factors Associated with Sexual Debut Among Respondents*

Statements	SA % (n)	A % (n)	U % (n)	D % (n)	SD % (n)
Low socio-economic status	28.7 (76)	25.3 (67)	13.6 (36)	15.8 (42)	16.6 (44)
Peer pressure	35.1 (93)	36.2 (96)	7.2 (19)	10.6 (28)	10.9 (29)
Exposure to pornography	39.2 (104)	32.5 (86)	7.2 (19)	9.8 (26)	11.3 (30)
Low level of knowledge	33.2 (88)	35.5 (94)	9.8 (26)	13.2 (35)	8.3 (22)
Poor parenting	38.9 (103)	31.7 (84)	5.7 (15)	11.3 (30)	12.5 (33)
Low self-esteem	31.7 (84)	33.2 (88)	12.1 (32)	9.8 (26)	13.2 (35)

Source: Field Survey 2025. ***Note.*** SA = Strongly Agree; A = Agree; U = Undecided; D = Disagree; SD = Strongly Disagree. Percentages are shown with frequencies in parentheses.

Table 4 shows that a substantial proportion of respondents strongly agreed that exposure to pornography (39.2%), poor parenting (38.9%), and peer pressure (35.1%) were major factors influencing early sexual debut. Similarly, 35.5% agreed that a low level of knowledge contributed, while 33.2% agreed that low self-esteem was a factor. In contrast, only 28.7% strongly agreed that low socio-economic status was associated with early sexual debut.

Table 5: *Association Between Sexual Debut and Age of Respondents (ANOVA)*

Source	Sum of Squares	df	Mean Square	F	p
Regression	0.09	1	0.09	0.39	.535
Residual	63.09	263	0.24		
Total	**63.18**	**264**			

Source: Field Survey (2025).

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Table 5 presents the test of association between sexual debut and the age categories of respondents. The analysis showed no significant association, $F(1, 263) = 0.39$, $p = .535$, indicating that the age of respondents was not related to their sexual debut.

Table 6: *Association between Sexual debut and Family Type of students (ANOVA)*

ANOVA	Sum of Squares	df	Mean Square	F	p. Value
Regression	0381.193	1	0.000	0.000	0.989
Residual	153.585	263	0.239895		
Total	1005.000	264			

Source: Field Survey, 2025.

Table 6 shows the degree of freedom was 1 with a mean square of 0.0000. The p-value was 0.989, which is greater than 0.05, indicating no association between sexual debut and the type of family of the students.

Table 7: *Association between Sexual debut and Type of School (Public Vs Private) (Chi-Square) N=34.*

Test	χ^2	df	p.Value	Odds ratio	95% CI for OR
Pearson χ^2 (Yates' continuity correction)	5.71	1	0.017	8.33	[1.85, 47.62]

Source: Field Survey, 2025.

Table 7 shows a chi-square test of independence using Yates' continuity correction to determine the relation between type of school (public vs. private) and early sexual debut prevalence (early ≤ 14 years vs. 15–19 years). The association was statistically significant, as the p-value was 0.017 which is less than 0.05. The odds of early sexual debut were 8.33 times higher among public-school students compared with private-school students, 95% CI [1.85, 47.62]

Qualitative Data

The FGDs conducted were thematically coded inductively. The themes and subthemes are presented in Table 7 below.

Table 8: *Perceptions and Factors Associated with Early Sexual Debut Among Respondents*

Theme / Subtheme	Description	Example Excerpts	n	%
Perception of Early Sexual Debut	How students perceive early sexual debut		31	100
Negative perception	Viewing early sexual debut as a negative social phenomenon	"It is a negative thing."; "It is abnormal."	18	58.1
Reasons for negative perception	Explanations for negative views	"It will lead to loss of self-esteem."; "Because of social stigma."	13	41.9
Factors Associated with Early Sexual Debut	Perceived contributors and facilitators of early sexual debut		38	100
Primary contributors	Basic underlying causes	Lack of parental control; parental absence; low self-esteem; financial problems	19	50
Facilitators	Other influences promoting early sexual debut	Peer pressure; influence of friends; sexualized media content; social media; lack of knowledge; being forced	19	50

Source: Field FGDs, 2025.

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Perception of Early Sexual Debut

When asked about their perceptions toward early sexual debut, most students expressed negative views.

Negative Perception

Students generally regarded early sexual debut as an undesirable and abnormal behavior. As one participant stated, *"It is a negative thing"* (R45). Another noted, *"It is an abnormal thing"* (R22).

Reasons for Negative Perceptions

Students provided different reasons for their negative attitudes. Many linked early sexual debut to diminished self-worth and stigmatization. For instance, one participant explained, *"It will lead to loss of self-esteem"* (R4), while another added, *"Because of social stigma"* (R6).

Factors Associated with Early Sexual Debut

Students also identified several contributing factors to early sexual debut, which were categorized as primary contributors and facilitators.

Primary Contributors

The primary factors included lack of parental control, parental absence, low self-esteem, limited awareness, and financial difficulties. These were described as underlying vulnerabilities that increased the likelihood of early sexual engagement.

Facilitators

Other factors were described as facilitators that directly promoted early sexual debut. These included peer pressure, the influence of bad friends, media exposure (particularly content that promotes sexuality), social media, lack of knowledge, and, in some cases, coercion or being forced.

DISCUSSION

The study assessed the proportion of sexually active students, the prevalence and characteristics of early sexual debut, as well as students' perceptions of early sexual debut. It further identified the factors associated with early sexual debut among female students in SS1 to SS3 in Karu Local Government Area, Nasarawa State.

The study revealed that most of the students were in SS1, of Igala ethnicity, Christians, and within the age range of 15 to 19 years. Most of them attended public schools and came from monogamous families.

On assessing the perceptions of the students to early sexual debut, most students perceived early sexual debut negatively, describing it as undesirable and abnormal. Such views align with socio-cultural and moral expectations in Nigerian communities, where premarital sex among adolescents is discouraged.[22] These perceptions reflect both personal beliefs and broader societal norms. The students also linked early sexual debut to loss of self-esteem and stigma, consistent with prior studies showing that adolescents who initiate sex early often experience regret, guilt, and reduced self-worth, particularly in conservative societies.[23]

The study reveals that 12.8% of the students are sexually active, and 30.2% said their friends are sexually active. In these sexually active students, an alarming 17.6% reported early sexual debut. Although 17.6% is not the majority, it is a worrying trend because of the potential impact on their health and society. This prevalence in Nasarawa State is higher than that of Lagos and Ekiti States by 6.6%, with a prevalence of 11%.[20,24] Similarly, the prevalence in Karu L.G.A is 4.4% higher than that in a similar West African country, Ghana.[13] However, a similar study by Omona and Ssuka (2023) in Uganda, an East-Central African country, identified a higher prevalence of 22.6%.[25] This is evidence of high levels of early sexual debut by female adolescents. Therefore, specific and targeted public health programs and interventions should focus on reducing the prevalence of early sexual debut among female students in secondary schools.

Concerningly, even though among the sexually active respondents, 47.1% reported having only one sexual partner, which is consistent with previous studies suggesting that adolescents often begin sexual activity with a single partner before potentially progressing to multiple partnerships.[26] However, the finding that about half of the students had more than one partner highlights a public health concern, as multiple sexual partnerships are associated with increased risk of sexually transmitted infections (STIs), unintended pregnancies, and other negative reproductive health outcomes.[13] The study further revealed that most respondents (70.6%) had their first sexual encounter with friends, suggesting that peer influence plays a significant role in shaping adolescents' sexual behaviours.[27] Additionally, only 35.3% of the respondents reported that their first sexual experience was voluntary, with the remainder 64.7% citing

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circumstances such as coercion, influence of alcohol, or peer pressure. This finding is concerning as it points to issues of sexual consent, autonomy, and possible exposure to sexual violence among adolescents. Similar studies have reported that non-consensual or coerced sexual debut is associated with long-term psychosocial consequences, including trauma, depression, and risky sexual behaviors later in life.[28]

When investigating different factors associated with early sexual debut, the study found that poor socio-economic status most of the time constrains access to educational resources and support systems, hence increasing susceptibility to engaging in risky activities is an important factor. Peer pressure was another important influence identified since the students may feel compelled to act according to the standards and behaviour of the peer group. In addition, viewing pornography at a young age possesses the power of distorting the perceptions of what a healthy sexual relationship should be like, and what both partners should expect in terms of behaviours, including sexual intercourse and other unsafe behaviours. A minimal level of sex education and knowledge enables misinformation regarding sexual health and relationships, leading students to make unhealthy choices. Moreover, the study revealed poor parenting as another important factor associated with the early sexual debut, as the environment provides insufficient emotional support and supervision to influence young people in making their decisions. In another dimension, the absence of parental guidance, particularly in the context of open communication about sexuality, can leave female students vulnerable to external influences. Moreover, low self-esteem can push adolescent girls to find validation and acceptability through sexual relationships, hence continuing the cycle of early sexual involvement. Furthermore, the media and social media platforms also play a substantial role because they often glamorize sexual activity or presenting it as a normative behavior among peers. Additionally, the use of force, whether physical or emotional, stands out as a grave concern. This finding aligns with the research conducted by Sprecher et al., Omona et al. and Cortez et al., all of which emphasize the multifaceted factors associated with early sexual debut among female adolescents.[29,25,16] These factors are very important because they highlight the root causes of early sexual debut, which could be used as a bedrock for education and public health interventions among secondary students.

On the inferential statistics, the findings of the study revealed a significant association between the type of school (public and private) and prevalence of early sexual debut among adolescents. Specifically, students attending public schools were substantially more likely to report early sexual debut as compared with their counterparts in private schools. More so, the odds of initiating sexual activity early were more than eight times higher among public-school students. This suggests that school environment may play an influential role in shaping adolescents' sexual behaviours. This may be because private schools typically have a lower student to teacher ratio, allowing teachers to provide closer supervision, more consistent guidance, and stronger behavioural monitoring. Such increased oversight may help reduce opportunities for risky behaviours, including early sexual initiation, compared with the more crowded and less closely supervised environments often found in public schools. This finding contrast to the results of a study in Jos which showed no significant statistical relationship between type of school and early sexual debut with a p-value of 0.204.[30] The findings of association between school type and early sexual debut indicate the critical role school environments play in shaping sexual health outcomes and suggest the need for targeted, school-based sexual health interventions, especially within public-school settings. Future research should explore more on the reasons why private schools reduce likelihood of early sexual debut.

However, the study shows that there is no statistically significant association between sexual debut and the age of respondents ($p = 0.535$). Despite the general assumption that age may influence the initiation of sexual activities, the results indicate that age was not a determining factor. This could suggest that other psychosocial and environmental factors play a more significant role in influencing sexual debut than age alone. Similarly, the study found no statistically significant association between sexual debut and the type of family structure ($p = 0.989$). This indicates that whether a student comes from a nuclear, extended, or single-parent family does not significantly influence the likelihood of early sexual initiation. This finding challenges the preconception that family structure alone strongly predicts early sexual behaviours among

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adolescents. These results highlight the complexity of factors influencing sexual debut, suggesting that interventions should focus on addressing a broader range of social, environmental, and personal factors rather than solely targeting demographic variables such as age or family structure. Emphasis on comprehensive sex education and promoting positive peer interactions may be more effective strategies in addressing early sexual initiation among students.

Notably, early sexual debutant adolescents are at increased risk of health challenges, including sexually transmitted infections and unintended pregnancies, which can have long-term implications for their physical well-being. In addition, early sexual activity may negatively affect academic performance through absenteeism, decreased concentration, or even school dropout. Psychosocially, adolescents may experience emotional distress, risky behaviors, and strained interpersonal relationships, which can impact self-esteem and social development.

Limitations of the Study

This study has several limitations. Its cross-sectional design captures data at a single point in time, offering only a snapshot rather than long-term insights. Reliance on self-reported data introduces the risk of response bias, while recall of past experiences, such as age at sexual debut, raises the possibility of recall bias.

CONCLUSION

This study provides critical insights into the prevalence, perceptions, and determinants of early sexual debut among female senior secondary school students in Karu Local Government Area, Nasarawa State, Nigeria. Findings revealed that despite the negative perception towards early sexual debut and only a small proportion of students were sexually active, about 1 in 5 students reported early sexual debut, with many experiencing it under coercion, peer influence, or exposure to alcohol. The study further highlighted that while demographic variables such as age and family type were not significantly associated with sexual debut, psychosocial and environmental factors such as peer pressure, poor parenting, exposure to pornography, low self-esteem, and socio-economic vulnerabilities were more influential. Additionally, school types (public and private) are associated with prevalence of early sexual debut. This emphasizes the need for holistic, multi-layered interventions that address these root causes rather than focusing solely on demographic characteristics. Public health programs should therefore prioritize comprehensive sexuality education, parental engagement, and peer-led interventions to delay sexual initiation and mitigate associated risks. Strengthening school-based sexual and reproductive health programs, coupled with community sensitization, will be vital in equipping adolescents with accurate knowledge, positive coping mechanisms, and protective skills.

Ultimately, the findings provide valuable evidence to inform policymakers, educators, parents, and healthcare providers in designing targeted interventions to safeguard adolescents' sexual and reproductive health, reduce early sexual debut, and promote healthier developmental outcomes.

DECLARATIONS

Authors' Contribution: Data curation, Formal analysis, Investigation, Methodology, Project administration, Resources, Software, Supervision, Validation, Visualization, Writing - original draft, Writing - review and editing. Chisom C.F: Conceptualization, Data curation, Investigation, Project administration, Resources, Software, Validation, Writing - original draft, Writing - review and editing. Danladi S.S: Conceptualization, Formal analysis, Investigation, Methodology, Project administration, Resources, Supervision, Validation, Writing - review and editing. Ijuptil A: Conceptualization, Data curation, Investigation, Methodology, Project administration, Resources, Supervision, Writing – review and editing. Zira I: Investigation, Methodology, Project administration, Resources, Software, Supervision, Validation, Visualization, Writing-original draft. Solomon A: Conceptualization, Formal analysis, Investigation, Methodology, Project administration, Validation, Visualization, Writing - review and editing, Supervision.

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