Prevalence and Social Determinants of Teenage Pregnancy in Bayelsa State

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ABSTRACT

Background*: Teenage pregnancy remains a pressing public health concern with far-reaching socio-economic and cultural implications, particularly in Nigeria. The prevalence of teenage pregnancy varies between states and countries with varying risk factors. This study aims to determine the prevalence of teenage pregnancy and social determinants associated with teenage pregnancy in Bayelsa State, Nigeria.*

Methods: *This was a cross-sectional descriptive study conducted, using a questionnaire adapted from the World Health Organisation illustrative – questionnaire for interview survey with young people. Using a stratified random sampling technique, 2,644 teenagers aged 13-19 years were recruited to participate in the study. Frequencies and percentages were calculated and tables were used to present the results. Logistic regression was used to define the relationship between teenage pregnancy and selected sociodemographic factors. The level of statistical significance was set at $p < 0.05$*

Results: *The prevalence of teenage pregnancy in Bayelsa State, south-south Nigeria was 22.5%. A significantly higher proportion of teenage pregnancy occurredin those aged 13-15 years compared to their older counterparts ($p<0.001$). Teenage pregnancy was found to be significantly higher in those*

who attended public schools than private schools (p<0.001). Teenagers who lived in the urban areas, belonged to monogamous and high socioeconomic class families had a reduced likelihood of being pregnant when compared to their counterparts (p<0.001).

Conclusion: *This study underscores the urgent need for a multi-sectoral approach to addressing teenage pregnancy. Interventions must go beyond merely providing information on contraception and must also tackle the structural barriers that perpetuate teenage pregnancies.*

Keywords: Teenage pregnancy, Prevalence, Social determinants, Bayelsa State, Nigeria

INTRODUCTION

Teenage pregnancy according to World Health Organization, is pregnancy in young women aged 13–19 years and is a major global public health concern that has dire social, economic, and health consequences.[1] During the teenage years, the individual progresses from the appearances of secondary sexual characteristics to full sexual maturity and within this period, psychological and emotional processes develop from those of a child to those of an adult.[2] The teenager also transits from being dependent socio-economically to one of relative independence. The culture of teenage pregnancy has decreased in high-income nations but is still prevalent in low and middle-income countries like Nigeria and South Africa.[3,4] Teenage birth incidence has been reported high in these countries as about 90% of teenage childbearing is attributed to reasons such as; low socioeconomic class, cultural, and health factors.[4] Overall, teenage pregnancy levels are considerably high in Nigeria, ranking in the third place in Sub-Saharan Africa,[3,4] though there are regional variations in Nigeria. In developed climes like the United States of America (USA), teenage pregnancy birth rates have dramatically declined over the past several decades,[4] however, disparities still exist in the rates of teenage pregnancies amongst the African American and Hispanic youths as these ethnic groups contribute to 57% of teenage pregnancies in the USA.[4] Poverty, lack of education and quality health care have been shown to contribute to this increase. Subsistence farming and fishing are primary activities in Bayelsa state accompanied by very high youth and in particular, young women and girls' poverty rate.[5] This is because such tedious jobs as farming and fishing are majorly left for the menfolk and elderly who are expected to cater for them.[5] This social factor implies that due to economic difficulties, households force teenagers into early marriages or relationships invariably promoting teenage pregnancies. Several studies[4-6] report progressive, giant differences in the incidence of teenage pregnancy and this is attributed to the fact that skills and career openings in teaching, corporate business and other sectors for young, unmarried females are rare in the rural-settings of any community.[4,5]

Furthermore, some people in the Izon culture comprising izon speaking areas in Niger Delta region, specifically in Bayelsa, Delta and Rivers states, develop other related beliefs about early marriage and childbearing which exacerbate the problem.[7] For instance, these cultures embrace teenage pregnancy as a norm and as a result they reject attempts that go

against the tide when preventing teenage pregnancy.[5,7] Teenage pregnancies are often as a result of coitus with their first partner, who is sometimes of the same age and usually not more advantaged socially.[6]

Other than low socio-economic and cultural factors, family structure and inadequate or lack of monitoring from parents contributes to high teenage pregnancy in Bayelsa. Young girls in single-parent homes, households with family conflict or homes where the mother also had teenage pregnancy, are at higher risk of engaging in early sexual behaviours, and or unwanted pregnancies due to the probable absence of proper supervision or encouragement.[6,7] The Nigeria Demographic Health Survey reported that there are negative consequences associated with child bearing in the teenage years, especially to the life of the young mother and her baby.[7]

In all, teenage pregnancy in Bayelsa State continues to be multivariate, which includes socio-economic and cultural dimensions, as well as infrastructural challenges. Maternal malnutrition, foetal congenital malformations, maternal anaemia, twin pregnancy, preterm birth, preeclampsia, eclampsia, maternal infections are some complications that may occur and as such, pregnant teenage girls are more likely to drop out of school.[2-4] Teenage pregnancy is rife and can have huge consequences for the health, productivity, and future of the Niger Delta region of which Bayelsa state is a part. This study therefore, aims to offer specific findings that will hopefully guide the design of special prevention strategies and policies, which will greatly enhance the existing literature on teenage pregnancy in Bayelsa State and comparable settings.

MATERIALS AND METHOD

Study Area

This school-based study was carried out between November, 2024 and March, 2025 in three (3) randomly selected, local government areas of Bayelsa State namely; Kolokuma/Opokuma, Yenagoa and Sagbama.

Bayelsa is located in the South-South geo-political zone, the core of the Niger Delta area of the country and was created in 1996.[8] Bayelsa state has an area of 10,773 square kilometres, a population of about 3,724,000 as at 2024 (from the 2006 national population census projection) and eight Local Government Areas with Yenagoa town as the state capital.[9] The 2024 adolescent population projection from 2006 national population census, at annual growth rate of 3% of 176,197 is 271,345.[9] The main inhabitants of Bayelsa state are Ijaw (Izon) along with Isoko and Urhobo people. The people are artisans, civil servants, traders, subsistence farmers, fishermen and lumberjacks.[8]

Study design

This was a cross sectional analytical study. A multistage sampling technique was used to select the representative samples. Simple random sampling was used to select the three (3) local government areas and secondary schools used. The names of the 8 LGAs were written on separate pieces of paper and put in a bag, an observer picks a piece of paper without returning it to the bag till the 3 LGAs were picked. Based on the number of private and public schools in each of the selected LGAs, schools were proportionately selected (in a ratio of ≈1:1) using a computer generated table of random numbers.Ssystematic sampling

was used to recruit participants from the selected schools. A list of all secondary schools in Kolokuma/Opokuma, Yenagoa and Sagbama LGA was obtained from the post – primary school management board and the ministry of education. The schools were stratified into public and private secondary schools according to their location-rural or urban. The dependent and independent variables were determined.

Study Population

The target group for this study comprised all female adolescents, 13-19 years attending secondary school and residing in both rural and urban communities in Bayelsa State, south-south, Nigeria. Female teenagers who have resided in the selected local government area for at least 6 months and those who have ever been pregnant or not were included in this study while those teenagers whose parents/guardians did not give consent for participation in the study were excluded.

Sample size

A minimum sample size was calculated with the following formula:

$$n = \frac{Z^2P}{e^2}$$

Where,

n = Sample size
Z = Corresponding to 95% confidence interval (1.96)
P = Prevalence of teenage pregnancy in a similar study by Ayuba & Gani,[10] which was 6.2%
e = Level of precision – 10% = 0.1

$$n = \frac{1.96^2X6.2}{0.1^2}$$

$$n = \frac{3.8416X6.2}{0.01^2}$$

$$n = 2381.79 = 2382$$

The adjustment factor was calculated with the formula below:

$$q = \frac{1}{1-f}$$

Where q is the adjustment factor and f the non-response rate which is 10% (0.1) in this environment.

$$q = \frac{1}{1 - 0.1}$$

$$q = \frac{1}{0.9}$$

$$q = 1.11$$

Hence, adjusted minimum sample size was given as 2382 participants multiplied by the adjustment factor of 1.11=2644 participants.

Adjusting for non-response rate, a total sample size of 2644 was obtained.

Data collection

Data was collected from female students attending secondary school in the selected local government areas using a structured, self-administered questionnaire for interview survey which was adapted from the WHO Illustrative questionnaire for interview – surveys with young people. Information on sociodemographic characteristics of the participants as well as information on the parents and family were obtained. Socioeconomic stratification was done based on the Oyedeji[9] classification which used occupation and highest educational status of the parents.

Data Analysis

Data was coded into the Statistical Package for Social Sciences (SPSS) version 25 and analysed. Results are presented in tables as frequencies, percentages with confidence interval set at 95% and statistical significance at $p<0.05$. Logistic regression was used to determine the relationship between teenage pregnancy and some social determinants.

Ethical consideration

Ethical clearance for this study was obtained from the Ministry of Education and Ministry of Health with reference numbers MOE/PRS/868/Vol.1 and BSHREC/Vol.1/24/05/1 respectively.
Informed consent was obtained from the principals of selected schools and from parents of selected participants. Assent was also obtained from recruited participants.

RESULTS

Sociodemographic characteristics of participants

Two thousand six hundred and forty – four (2644) teenagers were recruited for this study. The mean age of all the participants was 16.4 ±1.6 years (Table I). Sixty-seven percent (67%) lived in urban areas, 40.7% belonged to the lower socioeconomic class, and majority of the participants (41%) were from polygamous families.

Table I: Sociodemographic characteristics of participants

Sociodemographic Characteristics	No. of respondents (N=2,644)	
	N	%
Age		
13-15 years	912	34.5
16-18 years	1508	57.0
19 years	224	8.5
Type of School		
Public	1843	69.7
Private	801	30.3
Place of residence		
Urban	1777	67.2
Rural	867	32.8
Family Type		
Monogamous	945	35.7
Polygamous	1086	41.1
Single/Separated/Divorced	613	23.2
Socioeconomic Class (SEC) of parents		
Lower SEC	892	33.7
Middle SEC	1077	40.7
Upper SEC	675	25.5

Educational level and occupation of participants' parents

Table II reveals that the highest percentage of participants' parents (31.7% of fathers and 29.3% of mothers) had tertiary education. Concerning occupation of the parents, most of them (28.7% of fathers and 27.8% of mothers) were junior grade civil servants.

Table II: Educational level and occupation of participants' parents

Characteristic of Participants	Father (N =2644)		Mother (N=2644)	
	N	%	N	%
Highest educational level of parents				
University	567	21.4	481	18.2
Post-secondary education	839	31.7	774	29.3
Secondary education	682	25.8	555	20.9
Primary education	381	14.4	668	25.3
No formal education	175	6.6	166	6.3
Occupation of parents				
Senior public servant/professional /manager/ contractor/large scale trader	452	17.1	547	20.7
Intermediate grade public/civil servant/ senior schoolteacher	421	15.9	588	22.2
Junior grade public civil servant/ Junior schoolteacher/driver (artisans)	736	27.8	759	28.7
Petty trader /labourers/messengers	688	26.0	687	26.0
Unemployed/homemaker/student	347	13.1	63	2.4

Prevalence of teenage pregnancy

Figure 1 shows that out of the two thousand six hundred and forty-four (2644) participants, five hundred and ninety-four (594) participants admitted having been pregnant at a point in time, giving a prevalence rate of 22.5% among the study participants.

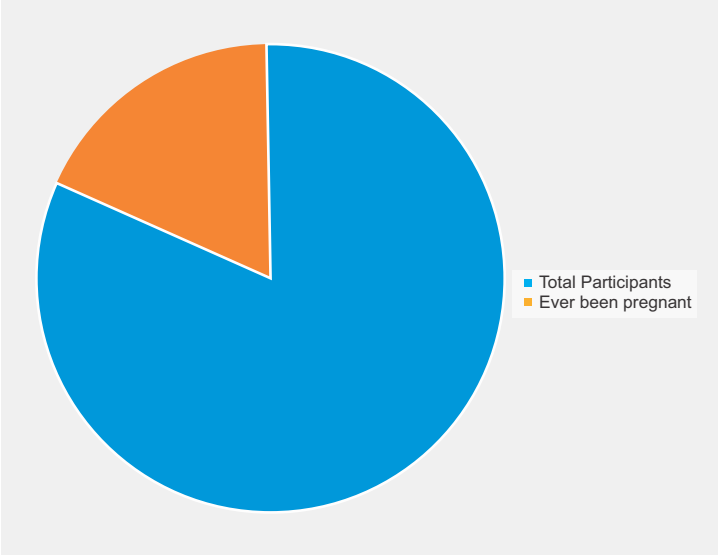

Figure 1: Diagram showing total number of participants and those who have been pregnant

Table III shows that majority of the teenagers who had ever been pregnant 55.2% (328) were aged 13 – 15 years. Of this number, majority, 67.7% and 58.9% attended public schools and were from single parent/separated or divorced families respectively. More than half (55.7%) resided in the rural areas while 51.7% of the participants' parents were of the lower socioeconomic class.

Table III: Prevalence of teenage pregnancy in Bayelsa State

Variables	No. of respondents (N=594)	
	N	%
Age		
13-15 years	328	55.2
16-18 years	102	17.2
19 years	164	27.6
Type of School		
Public	402	67.7
Private	192	32.3
Place of residence		
Urban	263	44.3
Rural	331	55.7
Family Type		
Monogamous	36	6.1
Polygamous	208	35.0
Single/Separated/Divorced	350	58.9
Socioeconomic Class (SEC) of parents		
Lower SEC	307	51.7
Middle SEC	225	37.9
Upper SEC	62	10.4

Prevalence of teenage pregnancy by age and social determinants

Table IV shows that there was a significant difference in the likelihood of occurrence of teenage pregnancy in those teenagers aged 13-15 years, 16-18 years ($p<0.001$, OR-0.87; 95% CI: 0.52-1.16) and ($p=0.000$, OR-0.36;0.28-0.74) respectively. Those participants who lived in the urban areas or belonged to monogamous families had a reduced likelihood of being pregnant ($p<0.001$, OR-1.22; 95%CI: 0.75-1.65) and ($p<0.001$, OR-0.82; 95%CI: 0.79-1.45) respectively.

Table IV: Prevalence of teenage pregnancy by age and social determinants

Variables	No. of respondents (N=594)		UOR(95%CI)	P value
	N	%		
Age				
13-15 years	328	55.2	0.87(0.52-1.16)	<0.001**
16-18 years	102	17.2	0.36(0.28-0.74)	0.000**
19 years*	164	27.6	RC	
Type of School				
Public	402	67.7	1.01(0.58-1.14)	<0.001**
Private*	192	32.3	RC	
Place of residence				
Urban	263	44.3	1.22(0.75-1.65)	<0.001**
Rural*	331	55.7	RC	
Family Type				
Monogamous	36	6.1	0.82(0.79-1.45)	<0.001**
Polygamous	208	35.0	1.38(0.60-2.16)	<0.004
Single/Separated/Divorced*	350	58.9	RC	
Socioeconomic Class (SEC) of parents				
Lower SEC	307	51.7	1.15(0.81-1.71)	<0.001**
Middle SEC	225	37.9	0.96(0.45-1.94)	0.001**
Upper SEC*	62	10.4	RC	

*RC-Reference Category, **significant p value, UOR-Unadjusted Odds Ratio, CI- Confidence Interval

DISCUSSION

The purpose of this study was to determine the prevalence and social determinants of teenage pregnancy in Bayelsa State. This study found that the prevalence of teenage pregnancy in Bayelsa state was 22.5%. A higher proportion of teenage pregnancy was seen in the teenagers between 13-15 years, this could be as a result of early sexual debut, inadequate or lack of sexual and reproductive health education. This finding was also found to be high in similar studies carried out by Kassa et al.,[3] and Envuladu et al.[6] in Nigeria and Akella and Jordan[4] in females 15-19 years old in the USA.Although, this finding contradicts that of Ayuba and Gani,[10] who in their study of sociodemographic determinants of teenage pregnancy in the Niger-Delta of Nigeria in 2012, found that teenage pregnancy was more prevalent amongst older teenagers, 18- 19years. This may be due to present day increased exposure to social media and unsupervised access to sexually prolific contents that predispose these younger teenagers to experiment amongst themselves. Teenagers whose parents fall into the lower SEC were also found to have a higher pregnancy rate as compared to their counterparts in the middle and high SEC.[12,13] This finding could be attributed to the fact that teenagers at this age, face the challenges of affording their basic needs especially if their parents are in the lower SEC, exposing them to having sexual relationships with those who can cater for their needs.[13]

It was also found that majority of the teenagers who attended public secondary schools and/or lived in the rural areas have been pregnant at a given time. This finding could be plausibly explained by the possible lack or inadequate supervision of teenagers attending public schools,[13-15] coupled with the belief that those residing in the rural areas are culturally ingrained with the impression that teenage pregnancy promotes and invariably confirms fertility and helps to ensure financial security, even if the pregnancy is out of wedlock.[15] Ezenwaka et al., in their study, exploring factors constraining utilization of contraceptive services among adolescents in south eastern Nigeria, had comparable findings, in that girls from rural communities are least likely to have access to adequate sexual and reproductive health services that provide adequate and explicit information on contraceptive use[16] its advantages in preventing unwanted pregnancy and promoting sexual and reproductive health.[16,17]

This study further found that a large number of teenagers from single parent, separated or divorced homes had been pregnant. This may be because girls born into homes, or growing up in homes especially, without a father figure, tend to spend a great amount of time trying to seek out and obtain the love and affection that they did not receive from their father.[18] Various studies[16-18] have shown that children reared in single parent homes are more likely to become single parents as well especially if their mothers were teenage parents. A significantly lower number of teenage pregnancies was found in those teenagers who belonged to monogamous families. This could be attributed to adequate parental guidance and monitoring, with parents likely to notice deviant behaviour on time and institute an intervention.[17-19] Parents in such families are often times educated and in turn try to ensure their children are educated. Also, such families are not usually large, therefore, teenagers in such environments can have their needs promptly catered for without seeking external support that may predispose them to sexual molestation or rape.[19]

The inverse relationship between parental education levels and teenage pregnancy rates highlights the critical role of education in shaping adolescent outcomes.[20,21] Parents with higher education levels are more likely to provide accurate information about sexual and reproductive health, foster open communication, and set high expectations for their children. These practices reduce the likelihood of early pregnancies and promote healthier adolescent development.[21]

Government policies should enforce establishment of youth-friendly health clinics in both urban and rural areas to provide teenage girls with access to contraception, sexual health education, and prenatal care.[21,24] Implement mobile health units to serve remote and underserved communities, offering reproductive health services and counselling on a regular basis. Also to increase collaboration with international organizations such as WHO and UNICEF to address infrastructural gaps and enhance healthcare delivery in rural Bayelsa. Preventive measures should encompass a multi-sectorial model of education, the development of supportive policies, community mobilization, and advocated access to health facilities.

CONCLUSION

This study underscores the urgent need for a multi-sectoral approach to addressing teenage pregnancy. Interventions must go beyond merely providing information on contraception and must also tackle the structural barriers that perpetuate teenage pregnancies. These barriers include limited family type, educational opportunities, poor healthcare access, socio-economic inequality, and cultural norms. It is therefore recommended that there should be improved supervision of teenagers in public schools, training and retraining of teachers on knowledge and teaching of sexual and reproductive health. Reproductive health services and contraceptives should be made easily accessible to teenagers without the attendant stigmatisation from the parents, community and even health workers.

STUDY LIMITATION

Male counterparts in teenage pregnancy and the modifiable factors were not explored to provide a holistic view of the problem of teenage pregnancy.

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CONFLICT OF INTEREST

The authors declare no conflicting interest(s)

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