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Original Research Article

**Adolescent Pregnancy: An Assessment of a Rural Community in Plateau State, North Central Nigeria****Tolulope O Afolaranmi<sup>\*1</sup>, Zuwaira I Hassan<sup>1</sup>, Ofakunrin O Akinyemi<sup>3</sup>, Ashaolu J Oluwakayode<sup>2</sup>, Ugwu C Oluchukwu<sup>2</sup>, Ajayi P Rotimi<sup>2</sup> and Moses P Chingle<sup>1</sup>**<sup>1</sup>Department of Community Medicine, University of Jos, Jos, Plateau State Nigeria<sup>2</sup>Faculty of Medical Sciences, University of Jos, Jos Plateau State, Plateau State Nigeria<sup>3</sup>Department of Paediatrics, University of Jos, Jos, Plateau State Nigeria

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Jos, Plateau State, Nigeria**\*Article History:****Received:** 09/06/2017**Revised:** 21/06/2017**Accepted:** 22/06/2017**DOI:** <https://doi.org/10.7439/ijbr.v8i6.4227>**Abstract****Background:** The incidence of adolescent pregnancy worldwide is on the increase and constitutes a major public health challenge. About 16 million women 15-19 years of age give birth each year and this account for 11% of all births worldwide with 95% occurring in middle and low income countries. Maternal mortality is about 2 times higher in girls aged 15-19 than for women aged 20-24 and five times higher in adolescents younger than 15 years. Hence, this study was conducted to assess the level of adolescent pregnancy, its perception and predictors in a rural community in Plateau state, North central Nigeria.**Methodology:** This was a cross sectional study conducted among 92 adolescent girls in a rural community using quantitative method of data collection. Epi info statistical software version 7.0 was used for data analysis. A 95% confidence interval was used in this study with a p-value of  $\leq 0.05$  was considered statistically significant.**Results:** The mean age of the adolescents was  $16.6 \pm 1.8$  years with most (73.9%) of them above 15 years of age. The overall level of adolescent pregnancy was 17.4% while pregnancy among those with a history of sexual experience was found to be 51.6%. Majority of the respondents perceived pregnancy in the adolescent period as inappropriate and shameful and schooling status of the adolescent was found to have positive statistically significant influence on adolescent pregnancy (OR = 0.1; 95% CI = 0.0153 – 0.6582; p = 0.017).**Conclusion:** This study has shown the level of pregnancy among adolescents in a rural setting with its corresponding perception and opined that structured interventions targeting the sexually and sexual needs of this group will go a long way in addressing this problem.**Keywords:** Adolescent pregnancy, Rural community, Plateau state, Nigeria.**1. Introduction**

There is an estimated 1.2 billion adolescents in the world with 85% of them living in developing countries. [1] The incidence of adolescent pregnancy worldwide is on the increase and constitutes a major public health challenge.[2,3] About 16 million women 15-19 years of age give birth each year and this account for 11% of all births worldwide with 95% occurring in middle and low income countries.[4] The average adolescent birth rate in middle income countries is twice the value in high income

countries and five times higher in low income countries, where 10% of girls become mothers by age 16 with the highest rates in sub Saharan Africa.[4] Adolescent pregnancy is considered a high risk pregnancy as complication from pregnancy and childbirth are the leading cause of death in girls age 15-19 in developing countries. [5] In Nigeria, complications of abortion account for 72% of deaths in girls less than 19 year and 50% of all maternal deaths result from illegal abortion among adolescents.[6]

Maternal mortality is about 2 times higher in girls aged 15-19 than for women aged 20-24 and five times higher in adolescents younger than 15 years. [7] Studies have been conducted with focus on the knowledge and use of contraceptives among adolescents with little or no attempts at examining the perception of pregnancy among adolescents and its associated factors. It is against this backdrop that this study was conducted to assess the level of adolescent pregnancy, its perception and predictors in a rural community of Plateau state, North central Nigeria.

## 2. Methodology

### 2.1 Study Area

The study was conducted in Gwarfan community in Jos Jarawa ward of Jos North Local Government Area of Plateau state.[8] Jos North Local Government Area(LGA) occupies an area of 286 Sq.km, comprising of 20 political wards with an estimated population 429,300.[8]

### 2.2 Study population

The study population comprised of all adolescent girls permanently residing in Gwarfan community of Jos North LGA of Plateau State.

### 2.3 Study design

This was a cross-sectional study conducted among 92 adolescent girls in Gwarfan community between April and May 2016 using quantitative method of data collection.

### 2.4 Sample size determination

A minimum sample size was determined using the sample size determination formula for cross-sectional study.[9]

$$n = \frac{Z^2 pq}{d^2}$$

Where n is the minimum sample size, Z is the standard normal deviate at 95% confidence interval (1.96), q is the complementary probability (1 – p), d is the precision of the study set at 0.05 and p is the proportion of adolescent girls found to be pregnancy in a previous similar study 5.7% (0.057). [10] This gave a minimum sample size of 92 adolescents girls after 10% addition to cater for non, poor and incomplete responses.

### 2.5 Inclusion and exclusion criteria

Adolescent girls permanently residing in Gwarfan, Jos North LGA of Plateau State between the ages of 10 and 19 who have consented or assented (those below 18 years) and whose parents have consented (those below 18years) to participate in the study were included. Girls who were not adolescents, adolescents who refused to give consent or assent and adolescents who were temporary resident in Gwarfan community were excluded from the study.

### 2.6 Sampling technique

A multi stage approach to sampling was used in this study; Jos North LGA was selected out of the 17 Local

Government Areas (LGAs) in the state using simple random sampling technique by balloting. Following which Jos Jarawa ward was selected from a list of 20 wards in Jos North LGA using simple random sampling by balloting. Thereafter, simple random sampling technique via balloting was used to select Gwarfan community from the list of 4 communities in Jos Jarawa ward. Finally household listing and enumeration was done giving to a total 289 households from which all adolescent girls who have met the inclusion criteria were sampled. Household was defined as a group of persons living together under the same roof and eating from the same pot.

### 2.7 Data collection

A four part semi structured interviewer administered questionnaire was used in this study with the following sections; socio-demographic characteristics, past and current pregnancy status, perception of adolescent of pregnancy and factors influence adolescent pregnancy. The data collection instrument was pretested among adolescents in another LGA prior to the commencement of the study. Three research assistants were trained on the content and administration of data collection instrument prior to the commencement of the study by the principal researcher. Ethical clearance was sought and obtained from Jos University Ethical Review Committee. Written and verbal informed consents were obtained from all the respondents 18 years and above while assent from those below 18 years and corresponding consent obtained from their parents with confidentiality and anonymity of their responses assured and maintained.

### 2.8 Data analysis

All data collected were processed and analysed using Epi Info Statistical Software version 7. Multiple logistic regression was used to identify factors influencing adolescent pregnancy. Odds ratio with 95% confidence interval was used and a p-value of < 0.05 was taken to be statistically significant.

## 3. Results

The mean age of the adolescents was 16.6 ± 1.8 years with most (73.9%) of them above 15 years of age. School attendance seemed to have gained prominence in this community as 81 (82.0%) of the respondents were in-school while only 11 (12.0%) of the studied respondents were out of school. A third of the respondents had had sex at least once with the mean age of sexual debut being 15.1 ±2.9 years. Of the respondents with history of sexual experience, 12 (38.7%) had engaged in at least one bout of sexual intercourse within the last one month prior to the study (Table 1).

The overall level of adolescent pregnancy in the studied community was 17.4% while pregnancy among

those with a history of sexual experience was fairly high as 16 (51.6%) had been pregnant either presently or in the past in the course of their adolescent lives. Assessment of the current pregnancy status among those with history of sexual experience revealed that only 16.1% were currently pregnant at the time of the study and 11 (35.5%) had a history of pregnancy in the past. Slightly above half (54.5%) of those with prior history of pregnancy had live-births as the pregnancy outcome while 45.5% reported abortions as the outcome. However, this study did not assess the type of abortions and contributory factors to it. Majority (81.5%) of the respondents perceived pregnancy in the adolescent period as inappropriate and shameful with the remaining 17 (18.5%) having a contrary perception of it being appropriate and acceptable. (Table 2)

Schooling status of the adolescent was found to have positive statistically significant influence on adolescent pregnancy as the odds of adolescent pregnancy among those in school was 0.1 times the odds of adolescent pregnancy among those out of school (OR = 0.1; 95% CI = 0.0153 – 0.6582; p = 0.017). Other factors assessed were awareness of contraceptive methods though not statistically significant but revealed that the odds of adolescent pregnancy among those not aware of contraceptive methods was 2.9 times the odds of adolescent pregnancy among those who were aware of the contraceptive methods.

**Table 1: Characteristics of the respondents**

Characteristics	Frequency	Percentage
Age (Years)		
10 – 15	24	26.1
> 15	68	73.9
Total	92	100.0
Mean age	Mean ± SD 16.6 ± 1.8 years	
Schooling status		
In-school	81	82.0
Out of school	11	12.0
Total	92	100.0
Sexual debut		
Yes	31	33.7
No	61	66.3
Total	92	100.0
Age at coitarche (years)		
10 – 15	22	71.0
> 15	9	29.0
Total	31	100.0
Mean age at coitarche	Mean ± SD 15.1 ± 2.9 years	
Sexual intercourse in the last one month		
Yes	12	38.7
No	19	61.2
Total	31	100.0

SD = Standard Deviation

**Table 2: Level and perception of adolescent pregnancy among the respondents**

Characteristics	Frequency	Percentage
Pregnancy status		
Ever pregnant	16	17.4
Never pregnant	76	82.6
Total	92	100.0
Pregnancy status among sexually exposed adolescents		
Ever pregnant	16	51.6
Never pregnant	21	48.4
Total	31	100.0
Current pregnancy status among sexually exposed adolescents		
Pregnant	5	16.1
Not pregnant	26	83.9
Total	31	100.0
Previous pregnancy status among sexually exposure adolescent		
Pregnant	11	35.5
Not pregnant	20	64.5
Total	31	100.0
Outcome of previous pregnancy		
Live birth	6	54.5
Abortion	5	45.5
Total	11	100.0
Number of pregnancy		
Once	13	81.3
More than once	3	18.7
Total	16	100.0
Perception of pregnancy in adolescence		
Appropriate and acceptable	17	18.5
Inappropriate and shameful	75	81.5
Total	92	100.0

**Table 3: Multiple logistic regression of factors influencing pregnancy in adolescent**

Factors	Odds ratio	95% Confidence interval	P – value
Age ( years )			
> 15	2.5	0.2504 – 25.7767	0.430
10 – 15	1	–	–
Schooling status			
In-school	0.1	0.0153–0.6582	0.017
Out of school	1	–	–
Awareness of contraceptive methods			
Not aware	2.9	0.6918 – 12.2360	0.145
Aware	1	–	–
Desire for money/material gifts			
Yes	0.9	0.1543 – 5.6658	0.942
No	1	–	–
Accessibility to contraceptive			
Not accessible	2.5	0.4890 – 12.5829	0.273
Accessible	1	–	–
Parental separation/divorce			
Yes	2.2	0.4382 – 11.0517	0.338
No	1	–	–
Peer pressure			
Yes	2.4	0.4921 – 11.9703	0.276
No	1	–	–

## 4. Discussion

In this study, about a third of the respondents had been sexually exposed which is comparable to what was obtained in another Nigerian study but at variance with findings of other studies conducted in the country with respectively. [10–13] The reason for this variation could be attributed to the fact that these studies varied in the mix of the respondents assessed in addition to the interplay of other factors driven by the environment, education and family stability among others.

The age at coitarche can play a significant role in modifying individual's sexual perception and involvement as well as possible pregnancy among adolescence, as the finding of this study share similarities with that of other Nigerian studies on sexual debut before the age 15 years and the frequency of sexual engagement.[2,12,13] This could be a pointer to the fact that the age of sexual debut among the adolescents is rapidly decreasing even before the attainment of full sexual maturity.

Pregnancy in adolescence has varying implications and consequences however, this seems inevitable to a large extent among this group. In this study, less than a quarter of the respondents reported ever being pregnant but quite surprising is the fact that of those who had been sexually exposed more than half had ever been pregnant with some currently pregnant and about a third reporting previous pregnancy. Other studies conducted in Nigeria had findings that synergize with that of this study significantly with little variations.[10-12,14-19] These findings have brought to light the high but yet insufficiently addressed burden of adolescent pregnancy with varied possible outcomes.

In the study, it was also observed that slightly above half of the respondents who had ever been pregnant had live-births as the pregnancy outcome while the others had abortions which is tandem with the findings of another study conducted in the same state. However, this is in contrast to the findings of another study done Ilorin, North central Nigeria in which the prevalence of abortion was 100% for all the reported adolescent pregnancy among the girls and more than two third of the male respondents who had impregnated adolescent girls had them abort the pregnancy.[10] Series of reasons were given in these studies for abortions as outcome of the pregnancy and such reasons included young age, being in school, not being married, partners not wanting the children, to avoid the societal stigma associated with adolescent pregnancy.[10] This study could however not assess the places or facility where these abortions were done as well as the cadre and competence of the personnel who induced them. In the light of these findings, it is obvious that the rates of abortions among adolescents are high and with possible health complications that may contribute to morbidity and

mortality. Therefore, it will require structured interventions with appropriate contents targeting the sexuality and sexual needs of this group with corresponding pregnancy preventive options provided through appropriate channels to them.

Pregnancy in the adolescent phase of life was perceived as inappropriate and shameful by majority of the respondents in this study, this is in keeping with what was obtained in other studies conducted South eastern Nigeria, where most of the respondents held a disapproving disposition towards adolescent pregnancy.[20, 21] The could be attributable to the fact that adolescents have significant insight and fairly good judgement on the issues of perception adolescent pregnancy within the tenets and dictates of culture and religion particularly outside marriage. However, cultural influence and parental perception of adolescent pregnancy could have significant influence in moulding the views and perception of these adolescents about pregnancy of which was beyond the scope of this study but if studied in the future can provide likely positive contributions toward addressing this scourge.

Factors such as age, schooling status, awareness and accessibility of contraceptive, peer pressure, parental separation or divorce and quest for financial and material gifts were examined in this study. However, schooling status was the only factor found to have positive statistically significant influence on adolescent pregnancy. Factors such as age at sexual debut, peer pressure, quest for money and gifts exposure to pornography, educational level, wealth status, parental separation and poverty were found to predict adolescent pregnancy in other studies.[15, 16, 19-24]

## 5. Conclusion

This study has shown the level of pregnancy among adolescents in a rural setting with its corresponding perception and opined that structured interventions targeting the sexually and sexual needs of this group will go a long way in addressing this problem.

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