

ORIGINAL RESEARCH ARTICLE

Influence of socio-economic factors on prevalence of teenage pregnancy in Nigeria

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Abstract

The study utilized the theory of fertility as initiated by Davis and Blakes (1956) and developed by Bongaarts in 1978 to underscore why teenage fertility has remained high in Nigeria. This study investigates women socio-economic factors influencing pregnancy in Nigeria. A total sample of 8448 female teenagers with pregnancy experiences were extracted from the 2018 Nigeria Demographic and Health Survey (NDHS). The study revealed that 19% of young girls with 15-19 years have experienced teenage pregnancy in Nigeria. More importantly, the socio-economic factors with significant influence on teenage pregnancy are: respondents with age 18-19 years (33.2 percent), rural (27.2 percent), Islamic religion (25.2 percent), North-west (28.5 percent), poorest (32 percent), no educational (43.7 percent), married/living with partners (73.9 percent), employed (21.5 percent), visited any health facility in the last 12 months (42 percent) and those who were informed about family planning at a health facility (84.3 per cent). There is need for sound education for females in Nigeria that will equip girls and women with adequate knowledge needed to make informed decisions on matters relating to sexual and reproductive health, hence resulting in the actualization of the SDG 5. (*Afr J Reprod Health 2021; 25[5s]: 138-146*).

Keywords: Teenage; pregnancy; socio-economic; sustainable development goals (SDGs)

Résumé

La fièvre de Lassa est devenue une incidence récurrente au Nigeria avec des taux de létalité élevés enregistrés ces derniers temps. Étant donné que le respect total des normes d'hygiène est recommandé comme ingrédient fondamental pour la prévention de la fièvre de Lassa, cette étude a examiné l'influence du contrôle comportemental perçu et des pratiques actuelles d'hygiène domestique et environnementale pour la prévention de la fièvre de Lassa chez les résidents de certains États endémiques de la fièvre de Lassa au Nigeria. Les données recueillies auprès de sources primaires par le biais d'une approche à méthodes mixtes, à l'aide d'un questionnaire structuré auto-administré et de discussions de groupe de discussion (FGD) ont été utilisées pour l'analyse et l'élaboration d'inférences. La taille de l'échantillon se composait de 663 répondants à l'enquête et de 72 participants aux groupes de discussion. Les données quantitatives ont été analysées à l'aide de SPSS version 23 en utilisant des statistiques descriptives et inférentielles tandis que l'analyse thématique a été utilisée pour analyser les données qualitatives. Les résultats indiquent que les résidents percevaient certaines pratiques d'hygiène recommandées comme « faciles à mettre en œuvre » alors que certaines sont perçues comme « difficiles à mettre en œuvre ». Le respect des pratiques d'hygiène standard est encore partiel en raison de l'influence significative du contrôle comportemental perçu sur les pratiques actuelles de prévention de la fièvre de Lassa dans tous les États sélectionnés à ($R^2 = 0,023, 0,040$ et $0,111$ pour les États d'Ebonyi, Edo et Ondo respectivement, à $p < 0,05$). L'étude recommande la mise en place d'installations de séchage des aliments/récoltes mécanisées à base communautaire à des tarifs subventionnés pour éliminer le risque de contamination des aliments par les rongeurs pendant le séchage au soleil et l'utilisation intensive de canaux de communication interpersonnels pour la campagne de porte-à-porte pour le respect total des les pratiques d'hygiène préférées pour la fièvre de Lassa. (*Afr J Reprod Health 2021; 25[5s]: 138-146*).

Mots-clés: Prévention des maladies, Pratiques d'hygiene, fièvre de Lassa, controle comportemental perçu, developpement durable

Introduction

Teenage pregnancy is a major public health challenge in Nigeria. The World Health

Organization reported that teenage pregnancy is the number one killer of teenage girls globally¹. According to the National Population Commission, 23 per cent of Nigerian girls aged 15 to 19 years

have started childbearing². It has been projected that it would take about half-century for countries in sub-Saharan Africa to reach the current level of adolescent childbearing in Europe³. A teenager is conceptualized as a young person between age 13 and 19 years^{1,4,5}. The teenage years is a period of transition between the end of childhood and when adulthood begins and is often called adolescence⁶. Consequently, the word 'teenage' will be used interchangeably with 'adolescent' all through this paper.

Teenage pregnancy is a challenge both in developed and developing nations⁷. Among the developed countries, the United State has the highest rate of teenage fertility⁸. In developing countries alone, about 7.3 million girls under the age of 18 years give birth annually, out of which girls under the age of 15 years account for 2 million births⁷. Adolescent fertility rate differs from one African country to another. For instance, according to the World Bank estimates, adolescent fertility rate (number of live births per 1000 women age 15-19) in Niger was reported at 206 and 194 in 1960 and 2016 respectively; in South Africa it was 64 and 44 in 1960 and 2016 respectively; in Kenya it was 180 and 82 in 1960 and 2016 respectively; in Liberia it was 226 and 129 in 1960 and 2016 respectively; and in Nigeria it was 164 and 109 in 1960 and 2016 respectively⁹.

During the 2013 World Population Day, it was estimated that in 2006, 44.5 million young people in Nigeria within the age range 10-24 years got pregnant, this constitutes about one-third of the total population¹⁰. The frequencies of occurrence of adolescent pregnancy vary across regions and countries¹¹. For instance, adolescent fertility is higher among females in the northern region of Nigeria mostly because of the prevalence of child marriage in that area, while it is lower in the eastern and southern part of the country¹². Adolescent pregnancy has a lot of consequences such as health challenges, lack of proper care for the baby as well as mothers dropping out of school⁴. Also, the problem of measurement and getting accurate statistics of vulnerable girls are major challenges encountered in solving this problem¹³.

Over the years, there has been remarkable progress targeted at improving sexual and reproductive health globally such as the 1994 International Conference on Population and Development (ICPD), the formation of the

sustainable development goals (SDGs) as well as Agenda 2063. Another study concluded that the use of the child-marriage market model could help increase women's age at first marriage hence reduce fertility through the provision of quality education and job opportunities¹⁴. Despite all these initiatives, Nigeria is still lagging for several reasons such as insufficient data, unplanned pregnancies, unmet need for contraception, poor healthcare facilities, early childbearing, shortage of skilled health personnel, gender inequality, poor leadership and transmission of sexually transmitted infections. All of these are suggestive of why the Millennium Development Goal (MDG) 5 target of improving maternal health was not achieved by 2015¹⁵. The pursuit of this study is expedient to highlight those factors that could make the girl-child vulnerable and thereby empower women for the plausible achievement of SDG five — to achieve gender equality by 2030 in Nigeria's context¹⁶.

Literature review and conceptual framework

This study uses Davis and Blakes theory of fertility. Davis and Blakes propounded a model which emphasize two major categories of fertility determinants namely background variables and intermediate (proximate) variables¹⁷. The former includes social, economic, health, psychological and environmental factors. The proximate variables on the other hand are factors that have a direct effect on fertility. The background factors function through the proximate determinants to influence fertility. The fertility model of Davis and Blakes was later developed by Bongaarts and Potter into eight factors, which they refer to as the proximate determinants of fertility¹⁷⁻¹⁹. They include contraception use, spontaneous intrauterine mortality, the frequency of intercourse, induced abortion, proportion married, duration of the fertile period, sterility, and lactational infecundability. Among the proximate variables, the proportion of women who are married remains one of the greatest determinants of fertility in Nigeria²⁰. Besides, postpartum sexual abstinence and breastfeeding also play a major role in the reduction of fertility rate in Nigeria²¹. This model was adopted for the study because in most developing countries, a majority of teen pregnancy that precedes marriage often leads to birth within marriage²².

In developed and developing countries, girls with lower levels of education, those from lower-income households and those living in rural areas are more likely to experience adolescent pregnancy²³. Furthermore, there is a strong link between a parent's socioeconomic status and adolescent pregnancy²⁴. Adolescents raised in low-income homes tend to have sex without using any form of contraceptive or birth control method, compared to their counterparts from wealthy families²⁵. Parents have a strong influence on the choice of their children. This is because the lack of proper supervision and poor parent-child communication can contribute to unsafe behaviours and early sexual activity. In a research conducted by Amoran, teenage pregnancy was twice more likely to occur among adolescents from a low socioeconomic background than those from a high socio-economic background²⁶. A girl is more likely to become pregnant due to factors such as poverty, social exclusion, marginalization, low educational level, and gender inequality²⁷.

Over 95 per cent of births among adolescents occur in developing countries, and 9 out of 10 of these fertilities occur within marriage or in a union²⁸. This finding concurs with the research conducted by Ekeng *et al.*, which reported that most young girls are usually under pressure to get married and consequently, bear children without being properly married²⁵. For Nigeria to actualize SDG 5.3, there is a need to eradicate all forms of harmful practices, such as forced and underage marriages in the country¹⁶. It is pertinent to note that teenage pregnancy has significant interaction with socioeconomic/other multi-facet factors such as education, income level, poverty, age, social factors, peer-pressure, contraceptive use, sex-education, early menarche, child marriage, sexual violence, psychological and health-related factor^{4,8,26}. Chiazor *et al.* stated that there is a positive correlation between the level of education of girls and adolescent pregnancy; this concurs with the survey conducted by Isa and Gani that education plays a major role in adolescent pregnancy, where those with no or primary education had the highest record of teenage pregnancy^{5,29}. Furthermore, Amin stated that poverty plays a major role in fertility; teenage pregnancy also increases the rate of unemployment^{22,30}.

However, this study is different from the previous ones in the sense that it seeks to explore the significant interactions between socio-economic variables of the respondents. Other studies generalize when looking at the effect of socio-economic factors on teenage pregnancy, rather than look at the individual effect of these factors (current marital status, religious affiliation, wealth index, region, occupational status). That was why cross-tabulation and chi-square were used, to help see how each of the socio-economic factors affects teenage pregnancy in Nigeria, which other scholars failed to address. Secondly, this work is different from that of others because NDHS data was used in the analysis, which is a good representative of the total population in relations to the six geopolitical zones in Nigeria. Thirdly, this study was undertaken because of the prevalence of teenage pregnancy in Nigeria, irrespective of similar works carried out in the past by other scholars. Furthermore, this paper relates the causes of teenage pregnancy in Nigeria with the actualization of the United Nations' Sustainable Development Goals (SDGs) by 2030.

Conceptual framework

The conceptual framework indicates the association between the dependent, independent and intervening variables. The dependent variable is teenage pregnancy; women's socio-economic status is the indirect variable while marital status is the proximate variable.

Methods

Research design

This study was carried out to examine the socio-economic factors influencing teenage pregnancy in Nigeria. The target populations are teenage girls who became pregnant before the age of 20 years in Nigeria. The dataset used is the 2018 Nigeria Demographic and Health Survey (NDHS) women data. The NDHS data is very prominent and reliable as it serves as a good representative of the entire population³¹. Using STATA/SE software version 16.1, the data of 8,448 women aged 15 to 19 years who were currently pregnant with their first pregnancy or have ever giving birth was extracted from the total number of 41,821 women

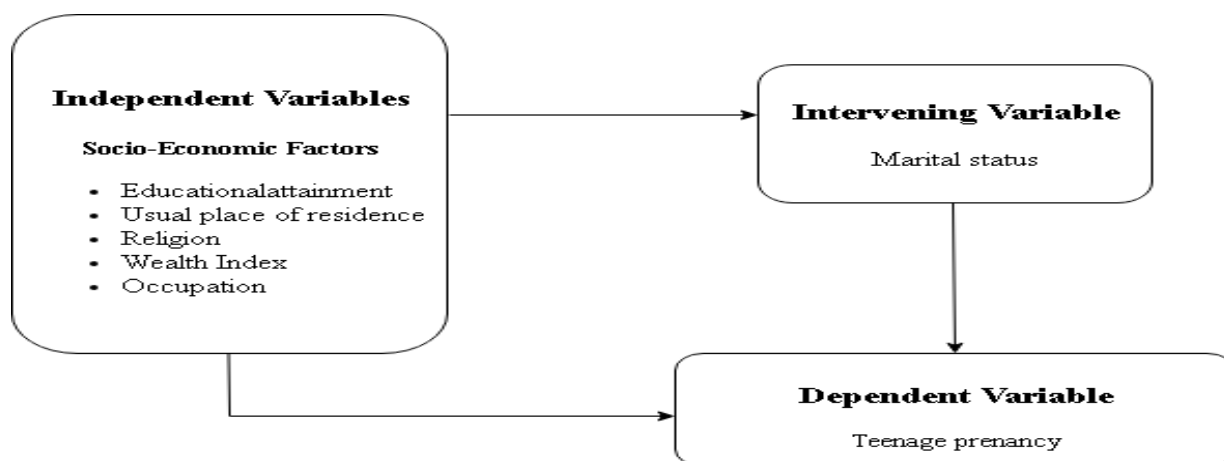


Figure 1: Schematic diagram demonstrating the interconnections between socio-economic factors and teenage pregnancy

who participated in the survey. This survey collected information on socioeconomic characteristics of individual women who are in their reproductive ages (15-49 years). The respondents in this survey are from the six geopolitical regions of Nigeria. The study used a conceptual framework to help give a proper understanding of the topic been investigated (Figure 1). It shows the relationship between the independent, dependent and intervening variables. From figure 1, the independent variables are the socio-economic factors measured by educational attainment, usual place of residence, religion, wealth Index, and occupation, while the dependent variable is teenage pregnancy.

Data measurements and analysis

Following the adapted fertility theory, the independent variables are therefore the socio-economic factors measured by educational attainment, usual place of residence, religion, wealth index, and occupation. The dependent variable is teenage pregnancy as conceptualized in the study to be teen-girls that got pregnant before the age of 20 years. Three levels of analysis were undertaken in the analysis. The first segment of the analysis was the univariate analysis. This featured frequency distribution of the socio-economic characteristics of the women (aged <20 years) who have experienced pregnancy. Secondly, the bivariate relationship between two simultaneous variables was analyzed using cross-tabulation and

chi-square. The third level of analysis used inferential multivariate analysis.

Results

The univariate analyses of socio-economic characteristics of respondents depict that out of 8,448 teenagers (girls) interviewed, 15-17 years (62.1 percent), rural (54.9 percent), Islamic religion (57.8 percent), North-west (32.4 percent), richer (21.4 percent), secondary education (61.1 percent), never married (76.6 percent), unemployed (61.4 percent), not visited health facility in last 12 months (79.3 percent) and not told of family planning at the health facility or not applicable (96.2) dominated the study (Table 1). Approximately 19% of girls aged 15-19 years experienced teenage pregnancy in Nigeria (Table 1).

The bivariate analyses showed cross-tabulations of respondents who have experienced teenage pregnancy with socio-economic variables and their chi-square tests respectively. The cross-tabulation revealed the following: Age group 18-19 years (33.2 percent), rural (27.2 percent), Islam (25.2 percent), North-west (28.5 percent), poorest (32 percent), no educational (43.7 percent), married/living with partners (73.9 percent), employed (21.5 percent), visited any health facility in the last 12 months (42 percent) and those who were informed about family planning at a health facility (84.3 per cent) are major respondents who have experienced teenage pregnancy in the study.

Table 1: Socio-economic characteristics of respondents

Variables	Frequency	Percent (%)
Age		
15-17	5242	62.1
18-19	3206	38.0
Place of Usual Residence		
Urban	3813	45.1
Rural	4635	54.9
Religion		
Christian	3528	41.8
Islam	4879	57.8
Others	41	0.5
Region		
North-Central	1183	14.0
North-East	1497	17.7
North-West	2737	32.4
South-East	928	10.9
South-South	888	10.5
South-West	1215	14.4
Wealth Index		
Poorest	1427	16.9
Poorer	1740	20.6
Middle	1758	20.8
Richer	1810	21.4
Richest	1713	20.3
Educational Attainment		
No education	2182	25.8
Primary	881	10.4
Secondary	5162	61.1
Higher	224	2.7
Current Marital Status		
Never in union	6471	76.6
Married/Living with partner	1927	22.8
Widowed/divorced/separated	50	0.6
Employment Status		
Not Employed	5184	61.4
Employed	3264	38.6
Visited any Health Facility Last 12 Months		
No	6700	79.3
Yes	1748	20.7
Told of Family Planning at Health Facility		
No/Not applicable	8112	96.2
Yes	336	4.0
Total	8448	18.7

Source: Computed from selected NDHS datasets (2018)

Interestingly, the chi-square tests indicated that all the socio-economic variables are significantly ($p < 0.001$) associated with teenage pregnancy (Table 2).

Table 3 shows the result of the logistic regression interpreted on the odds scale. After controlling for other confounding factors, the study shows that age 18-19 years, rural place of residence, other religion, south-south, poorer wealth status, primary education, married or living with partner, not

employed, visited health facility in the last 12 months and told of family planning are factors that put girls at the greatest risk of experiencing teenage pregnancy (Table 3).

Discussion

The high adolescent pregnancy rate in Nigeria signals danger to the actualization of SGD-5 target of eliminating by 2030, gender disparities and ensuring that all girls and women have equal access to education and health care; and to be represented in political and economic decision-making processes. This paper is important because it provides insight into the socio-economic factors influencing teenage pregnancy in Nigeria and how the understanding of these factors could help in the speedy achievement of the SDGs.

The paper shows that adolescent pregnancy rates differ substantially by age, residence, religion, education, wealth and region of the country. Just like this current study, Isa and Gani stated that teenage pregnancy is more prevalent among older teenagers²⁹. This study shows that girls aged 18-19 are 238.8% more likely to experience teenage pregnancy than those age 15-17 years. However, Etukudo and Usoro found that adolescent childbearing was more prevalent among younger adolescent compared to their older counterparts³². The contradictory findings between this study and that of Etukudo and Usoro could be because of the difference in study areas.

Also, girls from rural areas are 6% more likely to experience teenage pregnancy than those in urban areas. Girls from least developed communities and rural areas are least likely to have access to quality education as well as sound sexual and reproductive health services that provide adequate information on birth control⁵. Majority of those who have experienced teenage pregnancy are Muslims (25.2%), compared to Christians (9.7%) and those in other religions (20.3%). Religion is significantly related to teenage pregnancy because most times, the sexual behaviour of young people is dependent on the tenets and doctrines of their religious affiliations. Islam frowns at using contraceptives to prevent childbirth; it is believed that children are gifts from God; hence women start childbearing early in life³³⁻³⁵. Additionally, the findings from this current study agree with a previous study by Ajala that the majority of

Table 2: Distribution of women who have experienced teenage pregnancy by socio-economic factors

Variables	Frequency	Percent (%)	P-value
Age			<0.001
15-17	520	9.9	
18-19	1063	33.2	
Residence			<0.001
Urban	322	8.4	
Rural	1261	27.2	
Religion			<0.001
Christian	344	9.7	
Islam	1231	25.2	
Other	8	20.3	
Region			<0.001
North Central	193	16.3	
North East	367	24.5	
North West	780	28.5	
South East	81	8.8	
South South	94	10.6	
South West	67	5.5	
Wealth Index			<0.001
Poorest	457	32.0	
Poorer	540	31.0	
Middle	341	19.4	
Richer	186	10.3	
Richest	59	3.4	
Education Level			<0.001
No education	954	43.7	
Primary	204	23.1	
Secondary	422	8.2	
Higher	2	0.8	
Current Marial Status			<0.001
Never in union	126	1.9	
Married/Living with a partner	1424	73.9	
Widowed/ divorced/separated	33	65.4	
Employment Status			<0.001
Not Employed	882	17.0	
Employed	700	21.5	
Visited any Health Facility in last 12 Months			<0.001
No	847	12.6	
Yes	736	42.0	
Total Told of Family Planning at Health Facility			<0.001
No/not applicable	1299	16.0	
Yes	284	84.3	

Source: Computed from selected NDHS datasets (2018)

respondents who experienced early pregnancy came from the North-Western part of Nigeria³⁶. Kupoluyi *et al.* revealed that one in every three adolescent girls in Northern Nigeria get pregnant as teenagers compared to one out of ten girls in the South³⁴. This could reflect the influence of religion on fertility; a large proportion of girls from the northern region of the country are Muslims. The incidence of teenage pregnancy was more pronounced among girls from poorer economic

backgrounds. The result correlates with the findings of Mkwanzani, where poverty was identified as a major cause of adolescent pregnancy³⁷. This may be because impoverished teenagers might find it difficult to access quality reproductive health services compared to their counterparts from wealthy homes; even when contraceptives are available, they may not be able to afford it^{1,25,38}. Education also plays a major role in adolescent fertility rates because girls with no

Table 3: Multiple logistic regression analysis of socio-economic factors on teenage pregnancy

Variables	Odds Ratio (95% CI)
Age	
15-17	(Ref)
18-19	3.388 (2.780 – 4.129)***
Place of Usual Residence	
Urban	(Ref)
Rural	1.061 (0.807-1.396)
Religion	
Christian	(Ref)
Islam	0.506 (0.332-0.768)**
Others	3.609 (1.109-11.742)*
Region	
North-Central	(Ref)
North-East	0.963 (0.638-1.452)
North-West	0.6778 (0.459-0.999)
South-East	2.313 (1.317-4.063)***
South-South	3.754(2.205-6.392)***
South-West	2.676(1.530-4.679)***
Wealth Index	
Poorest	(Ref)
Poorer	1.192(0.925-1.536)
Middle	1.087(0.800-1.479)
Richer	0.744(0.512-1.079)
Richest	0.346(0.206-0.581)***
Educational Attainment	
No education	(Ref)
Primary	0.863(0.622-1.199)
Secondary	0.602(0.434-0.836)
Higher	0.050(0.007-0.315)***
Current Marital Status	
Never in union	(Ref)
Married/Living with partner	198.163(139.782-280.929)***
Widowed/divorced/separated	133.597(64.471-276.840)***
Employment Status	
Not Employed	(Ref)
Employed	0.939(0.768-1.148)
Visited any Health Facility Last 12 Months	
No	(Ref)
Yes	2.969 (2.334-3.779)***
Told of Family Planning at Health Facility	
No/Not applicable	(Ref)
Yes	8.086(4.631-14.119)***
Constance	0.012(0.006-0.213)***

Note. ***significant at the 1% level, **5% level, *10% level

education were the most likely to fall victim of early pregnancy. Adolescents with higher education were 94% less likely to experience teenage pregnancy compared to those without education. Female education helps reduce birth rates because studies have shown that girls who stay longer in school tend to delay the age at first birth and marriage³⁶. Furthermore, an educated girl is more likely to make better reproductive health

decisions because of her exposure to knowledge, unlike her uneducated counterpart who may not be able to read properly. Female education is also a great way of reducing gender inequalities and increasing a woman's chances of participating in the labour force. For Nigeria to achieve the SDG-5 by 2030, efforts should target improvement of safe learning environments, with qualified teachers especially in the Northern part of Nigeria where two-thirds of women have no formal education³⁹.

Additionally, child marriage is one of the major causes of adolescent pregnancy in most developing countries⁴. Majority (73.9%) of those who have experienced teenage pregnancy are married. This may be because of the African ideology that girls' virginity should be preserved and sexual activities should only be within the context of marriage, hence encouraging early marriage and teenage motherhood³⁶.

This study also shows a significant association between teenage pregnancy and visiting health facility. Inadequate knowledge of sexuality education and lack of access to quality health services could make a teenage girl make uninformed sexual and reproductive health decisions and consequently increase her chances of adolescent pregnancy.

Limitations

This study used secondary data from the 2018 Nigeria Demographic and Health Survey (NDHS), to get a nationally representative survey of teenage girls. Considering that teenage pregnancy is a sensitive issue, some participants may be unwilling to disclose accurate information on their sexual behaviour. Furthermore, there was a problem of inappropriateness of data. The study was restricted only to the information gotten during the survey.

Conclusion and Recommendations

The first step towards solving any challenge is to discover its cause. This is the reason for this study; to achieve gender equality and realize the fifth SDG by 2030, there is a need to examine the determinants of adolescent pregnancy in Nigeria thoroughly. Education plays a major role in fertility; those with low or no education tend to fall victim of early pregnancy compared to those who acquired higher education. Although the findings

of this study gives an insight on the factors that influence teenage pregnancy in the various geopolitical zones in Nigeria, there is still need for further research on other drivers of adolescent fertility such as the attitude and perspective of teenage girls and boys towards contraceptive use; and how the society and community sanction and react to pregnant teenagers.

The government of Nigeria should try to create more opportunities for adolescents (girls and boys) to be educated; this is in line with the United Nations' Sustainable Development Goal 5 which is to eradicate gender disparities in accessing quality education, healthcare, decent work and reproductive health rights. The high prevalence of adolescent pregnancy among impoverished teenagers suggests the need to integrate female education into every anti-poverty initiative, such that women are financially empowered to raise daughters who will not fall victim of teenage pregnancy. Education would help enlighten youths on the consequences of early pregnancy and how to prevent it. Besides, ensuring sound education in Nigeria will provide girls and women with adequate knowledge needed to make informed decisions on matters relating to sexual and reproductive health. Additionally, there should be an increased access to user-friendly reproductive health services to sexually active adolescents to reduce the chances of teenage and unintended pregnancies.

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References

- World Health Organization. Adolescent Pregnancy. Fact sheet, Geneva: WHO, 2020. <https://www.who.int/news-room/fact-sheets/detail/adolescent-pregnancy> Accessed December 2020.
- National Population Commission [Nigeria] and ICF International. Nigeria Demographic and Health Survey 2013. Rockville, Maryland, USA: National Population Commission and ICF International, 2014. <https://dhsprogram.com/pubs/pdf/fr293/fr293.pdf>
- Population Reference Bureau [PRB]. Trends in Adolescent Fertility a Mixed Picture. PRB, 2013. <https://www.prb.org/adolescent-fertility/> Accessed April 2019.
- Alabi O and Oluwafemi O. Teenage Pregnancy in Nigeria: Causes, Effect and Control. International Journal of Academic Research in Business and Social Sciences 2017; 7(2): 17-32.
- Chiazor IA, Ozoya MI, Idowu AE, Udume M and Osagide M. Teenage Pregnancy: The Female Adolescent Dilemma. International Journal of Science Commerce and Humanities, 2017; 5(1): 70-82.
- Johns Hopkins Medicine. The Growing Child: Adolescent 13 to 18 Years. 2020 <https://www.hopkinsmedicine.org/health/wellness-and-prevention/the-growing-child-adolescent-13-to-18-years>, Accessed December 2020
- United Nations Population Fund [UNFPA]. State of World Population 2013: Motherhood in childhood: Facing the challenges of adolescent pregnancy. New York: UNFPA; 2013.
- Jones EF, Forrest JD, Goldman N, Henshaw SK, Lincoln R, Rosoff JJ, Westoff CF and Wulf D. Teenage Pregnancy in Developed Countries: Determinants and Policy Implications. JSTOR, 1985; 17(2): 53-63.
- World Bank. World Bank Indicators. Adolescent fertility rate (births per 1,000 women ages 15-19). 2019 <https://data.worldbank.org/indicator/SP.ADO.TFR> T. Accessed April 2019.
- Onwumere O. Complexities Fronting Millions of Pregnant Nigerian Girls. <https://www.thenigerianvoice.com/news/255317/complexities-fronting-millions-of-pregnant-nigerian-girls.html> Accessed April 2019.
- Akanbi MA, Adetoro GW and Okoya OO. Undergraduates' perspectives on sex education and teenage pregnancy in Covenant University, Ota, Ogun State, Nigeria. Gender and Behaviour 2013; 11(1).
- Envuladu EA, Anke VK, Zwanikken P and Zoaka AI. Sexual and Reproductive Health Challenges of Adolescent Males and Females in some Communities of Plateau State Nigeria. International Journal of Psychology and Behavioral Sciences 2017; 7(2): 55-60.
- Aninanya GA, Debpuur CY, Awine T, Williams JE, Hodgson A and Howard N. Effects of an Adolescent Sexual and Reproductive Health Intervention on Health Service Usage by Young People in Northern Ghana: A Community-Randomised Trial. PLoS One 2015; 10(4).
- Amoo EO. Trends and determinants of female age at first marriage in sub-Saharan Africa (1990-2014): What has changed? African Population Studies 2017; 31(1); 3565-3677.
- Millennium Development Goals (MDGs) Report. 2015. [https://www.un.org/millenniumgoals/2015_MDG_Report/pdf/MDG%202015%20rev%20\(July%201\).pdf](https://www.un.org/millenniumgoals/2015_MDG_Report/pdf/MDG%202015%20rev%20(July%201).pdf) Accessed November 2020.
- Sustainable Development Goals (SDGs) Report. 2018

- <https://unstats.un.org/sdgs/files/report/2018/TheSustainableDevelopmentGoalsReport2018-EN.pdf>
Accessed November 2018
17. Davis K and Blake J. Social structure and fertility: An analytic framework. *Economic and Cultural Change* 1956; 4: 211-235.
 18. Bongaarts J. A framework for Analyzing the Proximate Determinants of Fertility. *Population and Development Review* 1958; 4:105-32.
 19. Bongaarts J and Potter RG. *Fertility, Biology and Behaviour: An Analysis of the Proximate Determinants*. New York: Academic Press 1983.
 20. Aladeniyi OB, Bello AH, Olopha PO and Alabi OO. Demographic analysis on the Proximate (Direct) and Contextual determinants of fertility in Nigeria. *Case Study: Nigeria Demographic and Health Survey, 2003 & 2008. International Journal of Scientific & Engineering Research* 2013; 4(11).
 21. Chimere-Dan O. Proximate determinants of fertility in Nigeria. *Journal of Social Biology* 2010; 37(3-4): 162-171.
 22. Amin A. *Proximate Determinants of Fertility Among Poor and Non-Poor Women in Kenya*. Doctoral dissertation, University of Nairobi 2014; 1-43.
 23. United Nations Educational, Scientific and Cultural Organization. *Education for All Global Monitoring Report: Girls' education-the fact* 2013; 1-4.
 24. Odu B, Ayodele C. and Isola A. *Unplanned Parenthood: The Socio-Economic Consequences of Adolescent Childbearing in Nigeria*. *Journal of Education and Practice* 2015; 6(31): 15-19.
 25. Ekeng N, Samuel A, and Esien E. *Teenage Pregnancy and Education in Nigeria: A Philo-Sociological Management Strategy*. *Journal of Education and Social Research* MCSER Publishing Rome-Italy 2014; 4(3): 41-47.
 26. Amoran OE. A comparative analysis of predictors of teenage pregnancy and its prevention in a rural town in Western Nigeria. *International Journal for Equity in Health* 2012; 11(1):37.
 27. Rachna-Dubey SD. *A Cross-Sectional Study to Assess Socio-Economic Complications of Adolescent Pregnancy in a Metropolitan City of Central India*. *National Journal of Community Medicine* 2014; 428-433.
 28. World Health Organization. *MPS Notes: Adolescent Pregnancy*. WHO, 2008 *1(1)*.
https://www.who.int/maternal_child_adolescent/documents/mpsnnotes_2_lr.pdf?ua=1
 29. Isa A. and Gani O. Socio-Demographic Determinants of Teenage Pregnancy in the Niger-Delta of Nigeria. *Open Journal of Obstetrics and Gynecology* 2012; 239-243.
 30. Gemma B, Marni.B. and Noralou R. Teen Mothers and Socio-Economic Status: The Chicken-Egg Debate. *Journal of the Association for Research on Mothering* 2007; 9(1): 62-74.
 31. National Population Commission [Nigeria] and ICF International. *Nigeria Demographic and Health Survey 2018*. Rockville, Maryland, USA: National Population Commission and ICF International, 2019. Available from <https://dhsprogram.com/pubs/pdf/FR359/FR359.pdf>
 32. Etukudo IW and Usoro NA. Determinants of Adolescent Childbearing in Oghara Kingdom, Delta State, Nigeria. *Journal of Culture, Society and Development* 2020; 55: 21-28.
 33. Yakubu I and Salisu W. Determinants of adolescent pregnancy in sub-Saharan Africa: a systematic review. *Reproductive Health* 2018; 15(15).
 34. Kupoluyi J, Njoku E and Oyinloye B. Factors Associated with Teenage Pregnancy and Childbearing in Nigeria. 2015. <https://uaps2015.princeton.edu/papers/151306>
Accessed April 2019
 35. Adebayo F. and Tajudeen O. Effect of Religion on Reproductive Health Issues in Nigeria. *International Journal of Innovative Healthcare Research*, 2016; 4(1): 17-33.
 36. Ajala AO. Factors associated with Teenage Pregnancy and Fertility in Nigeria. *Journal of Economics and Sustainable Development* 2014; 5(2): 62-70.
 37. Mkwanzani S. *Poverty-An Explanation for Teenage Pregnancy in South Africa?* 2016 <https://paa.confex.com/paa/2016/mediafile/ExtendedAbstract/Paper6533/PAA%20Poverty%20and%20TP.pdf>. Accessed April 2019
 38. Domenico DM and Jones KH. Adolescent pregnancy in America: Causes and responses. *Journal for Vocational Special Needs Education* 2007; 30: 4-12.
 39. British Council Nigeria [BCN]. *Gender in Nigeria report 2014: Issues, Influencers and Actions*. BCN 2014. <https://www.britishcouncil.org/sites/default/files/british-councilgirls-education-nigeria-report.pdf>.