Contextual Determinants of Sexual Behaviour of Emerging Adults in Nigeria

Extended Abstract

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Long Abstract

Several studies have examined the determinants of sexual behaviour of young adults in Nigeria. These studies found explanations in individual and household predictors. However, evidence from the developed countries established that the conceptualization of young people's transition to adulthood should move beyond using age classification in explaining the period of transition to adulthood but a social construction couched in delay parenthood and marriage. A situation where expanding education and employment prospects create a window of opportunity for sexual experimentation, termed emerging adults aged 18-25 years. Meanwhile, there is little research on these in Nigeria. Hence this study tested models on age at first sex and incorporated individual-level alongside contextual characteristics using the 2013 Nigeria DHS. Results showed the median age at first sex is higher for male (19 years) compared with female (18years) and that individual and community variables influenced age at first sexual intercourse. Community-based interventions should be encouraged.

Introduction

The transition to adulthood has changed drastically in most developed countries. It extends so long these days that marriage and parenthood have come later and many young people have extended their education and career pursuit. This has brought to the fore the need for clarity on the expansion of the conceptualization of young people's transition to adulthood in the life course perspective, a period termed emerging adulthood (Arnett, 2000, 2014). Meanwhile, researchers have argued that risk sexual behaviour occurs most commonly among emerging adults between age 18 and 25 years (Berhan & Berhan, 2015). In sub-Saharan Africa including Nigeria, sexual health outcomes of these young people are largely poor. Several studies established that risky sexual behaviour including early sexual debut, multiple sexual partnership, inconsistent or non-use of contraception are determinants of negative health outcomes, such as unwanted pregnancies, sexually transmitted infections and HIV/AIDS in SSA including Nigeria (Goli, Rammohan & Singh, 2015; Djukpen, 2012; Okonkwo, 2013; Homma et al., 2012; Uchidi et al., 2012; Namisi et al., 2013). Evidence suggests about 71% of these young people are living with HIV/AIDS and more than half of the global estimates on STIs are among young females aged 15-24 years (UNAIDS, 2014; Kharsany & Karim, 2016). However, in SSA including Nigeria, studies have established increasing age at first marriage (Garenne, 2014; Palamuleni, 2010) especially among educated women who seek career advancement (Palemuleni, 2011; Mokomane, 2006); and men who delayed marriage because of its huge financial outlays (Dintwat, 2010).

While studies in other countries are drawing attention to the influence of contextual factors on sexual behaviour of young people (Benefo, 2008; Stephenson, Simon & Finneran, 2014; Sommer & Mmari, 2015; Wamoyi *et al.*, 2014), there is dearth of studies in Nigeria that examine the influence of community-level factors on sexual behaviour of emerging adults. The few studies conducted in Nigeria on contextual factors and sexual behaviour focused on adolescents leaving out emerging adults (Uthman, 2010; Fatusi & Bloom, 2008).

Apart from that, evidence is well documented on poor sexual outcomes of young people in Nigeria. Scholarly literature is replete with high prevalence of risky sexual practices among adolescents and young adults but very few among emerging adults in developing countries including Nigeria (Zolna & Lindberg, 2012; Epstein, Bailey & Manhart, 2014). However, while there is much evidence of delayed parenthood and later marriage among emerging adults especially during the developmental transition to adulthood in developed world (Arnett, 2005,

2014; Fielder & Carey, 2010), there is dearth of research on the trends and patterns of unsafe sexual practices among emerging adults in Nigeria. Not until recently, there are no studies that focus on the patterns and determinants of risky sexual behaviour among youth that are neither adolescents nor adults in Nigeria (Agunbiade & Aransiola, 2016; Williams & Aderanti, 2011).

Besides, recent studies have emphasised the need to unpack the determinants of risky sexual practices beyond individual and household factors to include a web of external factors at the community level (Fatusi & Blum, 2008; Stephenson, Simon & Finneran, 2014). This is because where young people live can stand as an independent and mediating factors interacting with individual and household factors and in turn sexual outcomes. This study filled the research gap identified. Specifically, much evidence exists on emerging adulthood and the effects of extended education and late marriage on unsafe sexual practices in the developed countries. However, there is little research on these in Nigeria. Studies in Nigeria on sexual behaviour have focused on individual and household factors but overlooked deeply-rooted socio-economic and cultural norms. Hence this study developed and tested a model on age at first sex of emerging adults that incorporated individual-level characteristics along with contextual characteristics defined at the community level in Nigeria.

Data and Methods

Study Design

The study employed a multilevel cross-sectional descriptive research design. The study drew on data from the 2013 Nigeria Demographic and Health Survey (NDHS). Data were extracted from this survey for unmarried emerging adults aged 18-25 years who are sexually active in the last one-year prior to the survey.

Sampling Technique

The selection of sample was based on clusters and households and this involved a three-staged sampling technique. Nigeria was divided into strata and this consists of all the 36 states and the Federal Capital Territory (FCT). Enumeration Areas (EAs) were created in every state for easy access to the respondents. In the first stage, 896

clusters were randomly selected. The second stage involved a random selection of one EA from most of the clusters and this resulted to the selection of 372 EAs from the urban areas and 532 from the rural areas. A total of 45 households were selected from each rural and urban areas. In all, 40,680 households were sampled for the survey: 23,940 in the rural areas and 16,740 in the urban areas. Complete details of the methods used in the 2013 NDHS have been published elsewhere (NPC & ICF International, 2014).

Data Collection

Data were collected through the use of questionnaires that were administered by conducting face-to-face interviews. Information obtained through this process covered socio-economic characteristics, child health, fertility, sexuality, reproductive history, prenatal and postnatal care, nutrition, immunization and HIV/AIDS. Information on sexual behaviour focused on age at first sexual initiation, number of sexual partners and consistency in the use of condom with sex partners. Median age at first sex in Nigeria was reported as 17.6 years.

Outcome variable

We used age at first sex among emerging adults aged 18-25 years. The outcome variable is an event history data and this is termed risk of having first sex between age 18 and 25 years. This is measured as the duration of having sex between age 18 and 25 years. Cox proportional hazard model helps to consider time-to-event and takes into account the risk of having sex within the age range as the criterion variable. Those who had had sex between the age range, that is non-censored were referred to as cases while those yet to have sex between the age range were treated as right-censored observations.

Independent variables

Individual-level factors: the following variables were considered in the study namely; age, sex, education, wealth index, religion, ethnicity, HIV perceived knowledge, and media exposure. These variables were selected based on their significance in the literature and theory.

Community-level factors

The individual variables were aggregated at the cluster level to build the community-level variables. These variables were considered: region, place of residence, ethnic diversity, community education, community poverty level, and community perceived HIV knowledge. Two variables, exposure to mass media and HIV knowledge were used for statistical control. The weighted sample size is 8,514.

Statistical Analysis

Data were analysed using descriptive and inferential statistics. The three levels of analysis were employed: univariate, bivariate and multivariate. Frequency distribution, Kaplan Meier, chi-square statistical test and cox proportional regression analysis were used through STATA 14. Descriptive analyses were used to estimate the prevalence and patterns of age at first sex and other important independent variables. The inferential statistics on the other hand were used to establish association between individual and community-level variables and age at first sex using the cox proportional hazard model. Variance Inflation Factor (VIF) was performed to ensure the absence of multi-collinearity among the explanatory variables. This was done using mean VIF score of 5 or more suggests that estimation is wrong. A mean VIF of 3.32 was obtained in this study indicating that the explanatory variables are adequate for the study. The Alkaine information criterion was used to test goodness-of-fit of the variables. The multilevel cox proportional hazard ratio was applied to account for the hierarchical nature of the data analysed, and assessed the variations in age at first sex attributable to community factors. A 2-level model was specified.

The model was fitted by the Stata xtmelogit command (StataCorp, 2011), and replicated in four different models with the empty model. Model 1 included only the selected individual characteristics, while Model 2 included household variables. Community variables were included in model 3. The fixed effects of the multilevel model were assessed using the cox proportional hazard ratio while the random effects were measured using Variance Partition Coefficient (VPC) and Proportional Change in Variance.

Ethical Considerations

Ethical issues have been addressed in the 2013 Nigeria Demographic and Health Survey being a secondary data. Confidentiality and anonymity were maintained through secured storage of data in the DHS. Participation was voluntary and respondents were told to withdraw any point they feel uncomfortable to continue with the study. This study itself is unlikely to cause any embarrassment or discomfort to study participants. It may benefit study participants as it has the potential to influence community-based interventions that will enhance sexual health outcomes of emerging adults.

Main Findings

In Table 1, the results showed median age at first sex among males to be 19 while females 18. One of the Kaplan Meier graphs, region of residence showed it was associated with age at first sex. The northern regions showed earlier age at first sex. Other analysis at the bivariate analysis including education, religion, region, wealth index, ethnicity, household head, family size influenced age at first sex for both sexes. In Table 3, for multivariable analysis, the results revealed after controlling for exposure to mass media and HIV knowledge, community education, community poverty level, region, place of residence and community consumption of alcohol were related to age at first sex for male and female.

Conclusion

The study concluded that some individual and community variables were associated with age at first sex for both sexes in Nigeria. Community-based interventions should be encouraged alongside individual based interventions.

RESULTS

UNIVARIATE ANALYSIS

Background Characteristics of Emerging Adults

Table 1: Percentage Distribution of Respondents' Background Characteristics

Variables	Categories	SEX	
		Males n=4,270	females n=4,244
Age	18-21	56.1	50.4
	22-25	43.9	49.6
Highest Level of Education	No education	29.5	10.2
	Primary	22.7	31.9
	Secondary	36.5	49.1
	Higher	11.2	8.8
Exposure to media	No	60.0	50.6
	Yes	40.0	49.4
Family type	Nuclear	71.0	65.0
	Extended	18.0	5.2
	No response	11.0	29.8
Place of residence	Urban	53.7	49.7
	Rural	46.3	50.3
Household structure	Homogenous	98.3	95.0
	Heterogeneous	1.7	5.0
Household size	Small	46.5	50.2
	Medium	47.5	43.5
	Large	6.0	6.4
Employment status	Employed	72.6	87.5
	Unemployed	26.7	11.1
	undecided	0.7	1.4
Wealth status	Low	59.5	45.9
	Medium	39.9	52.6
	High	0.6	1.5
Household head	Male	64.6	65.8
	Female	35.4	34.2
Religion	Christian	37.2	41.3
	Islam	62.1	55.0
	Others	0.7	3.8
Ethnicity	Hausa/Fulani	34.4	40.4
	Igbo	29.4	33.2
	Yoruba	36.2	26.4

Region	North east		
	North west		
	North central		
	South west		
	South east		
	South south		
HIV Knowledge	Low	4.36	1.34
	High	95.64	98.66
Age at first sex		Median=19	Median=18
		s.d=2.13	s.d=2.50
	Total	100.0	100.0

Source: Nigeria DHS 2013

MULTIVARIATE ANALYSIS

Cox Proportional Hazard Ratios showing the Relationship between Individual, Household and Community Contextual Factors associated with Sexual Behaviour of Emerging Adults in Nigeria

Variables Fixed Effects	Categories	Male				Female			
		Age at first sex				Age at first sex			
		Model 0	Model 1	Model 2	Model 3	Model 0	Model 1	Model 2	Model 3
		Empty model (HR)	Individual-level variable (HR)	Household- level variables (HR)	Community-level variable (HR)	Empty model (HR)	Individual-level variable (HR)	Household-level variable	Community-level variable
Age	18-21		1				1		
	22-25		1.64*				1.63		
Highest Level of Education	No education		1				1		
	Primary		1.76*				1.23*		
	Secondary		0.85*				0.67*		
	Higher		0.34*				0.87*		
Exposure to media	No		1				1		
	yes		0.36*				0.08*		
HIV Knowledge	Low		1				1		
	high		0.56*				0.23*		

Employment status	Employed			1								1				
	Unemployed			2.45*								3.45*				
Religion	Christian			1								1				
	Islam			1.78*								2.32				
	Others			2.45*								2.44*				
Family type	Nuclear					1								1		
	Extended					1.88*								2.76*		
Household size	Small					1						2.77		1		
	Medium					2.34*						0.47		1.97*		
	large					2.78*						1.0		1.09*		
Wealth status	Low					1.0								1		
	Medium					0.57*								0.65		
	High					0.55*								0.68*		
Household head	Male					1.0								1		
	Female					2,89*								1.97*		
Ethnicity	Hausa/Fulani					1								1		
	Igbo					0.86*								0.76		
	Yoruba					0.74*								2.65*		
Region	North East							1								1
	North West							1.56*								2.65
	North Central							2.43								2.11
	South South							0.90*								1.87*
	South West							0.87								0.76*
	South East							0.54*								0.79*
Place of residence	Urban							1								1
	Rural							2.34*								3.32*
Community education	Low							1								1
	Medium							0.98								0.65
	High							0.24*								0.97
Community poverty	Low							1								1

	Medium							2.45*								1.34*	
	High							3.24*									
Community HIV Knowledge	Low							1								1	
	High							0.45*								0.76*	
Ethnic Diversity	Homogenous							1								1	
	Mixed							1.46*								1.78*	
	Heterogeneous							1.36*								1.46*	
	Random effects	**Empty**		**Individual**		**household**		**community**		**Empty**		**Individual**		**Household**		**Community**	
	Community-level																
	Variance (SE)	0.32(0.19)*		0.27(0.17)*		0.25(0.15)*		0.16(0.13)*		0.26(0.17)*		0.23(0.12)*		0.18(0.10)		0.15(0.11)*	
	VPC(%)	8.2		6.7		5.8		4.3		7.2		6.1		5.9		3.8	
	Explained	Reference		15.6		28.6		37.4		Reference		16.9		27.4		38.6	
	Variation (PCV)%																
	Individual-level																
	Variance (SE)	0.34(0.14)*		0.23(0.11)		0.17(0.09)*		0.11(0.05)		0.31(0.12)*		0.21(0.14)*		0.14(0.07)*		0.09(0.03)*	
	(PCV) %																
	Explained Variation (PVC) %	Reference		50.0		64.0		70.0		65.0		70.0		83.0		89.0	
	Log likelihood	-1234.5		-1156.8		-1065.6		-1032.7		-1312.8		-1167.9		-999.7		1212.8	
	Model fit statistics																
	AIC	3456.6		2876.7		2267.9		2967.3		3067.7		2553.9		2876.8		2412.4	

Abbreviation: HR: Hazard ratio, SE: Standard error, VPC: Variance partition coefficient, PCV: proportional change in variance, AIC: Akaike information criterion, *p<0.05.

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