Maternal Socioeconomic Status and Fertility Behaviour in Nigeria: Evidence from a Cross Sectional Nationally Representative Survey

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Abstract

Aims: Studies have linked individual factors such as education and household variables including wealth index as predictors of fertility behaviour. This study aims to examine the effect of socioeconomic characteristics on fertility behaviour when combined as a single proxy among women of reproductive ages in Nigeria. **Methods:** Data for this study was extracted from the Nigeria Demographic and Health Surveys (NDHS) of 2003, 2008, and 2013. The explanatory variable, "socioeconomic status", was derived as a composite index from the combination of individual and household variables. The outcome variable "fertility behaviour" is measured by total children ever born (CEB). Pearson chi-square test was used to determine the association among variables. Ordinal logistic regression was used to assess the effect of the explanatory variable on the outcome variable. Level of significance was determined at 5% and 95% confidence interval. The analysis was carried out using Stata 14.0. **Results:** There is a statistically significant but inverse association between socioeconomic status and reported CEB. If women were to change their socioeconomic status from low to high, the CEB would reduce by -0.502 ($p<.001$) and by -1.038 ($p<.000$). This pattern remained consistent in the adjusted model and across all surveys. **Conclusion:** The study concludes that women's socioeconomic status significantly predicts fertility behaviour. An improved socioeconomic status would reduce reported CEB. Efforts to reduce fertility in Nigeria must embrace a multi-dimensional approach that creates opportunities aimed at promoting women's economic status.

Keywords: Children ever born, fertility behaviour, Nigeria, Ordered Logistic Regression, Socioeconomic Status

Introduction

Background

The fertility level in Nigeria has remained high for decades, with a slight decline in the total fertility rate (TFR) from 6.0 in 1990 to 5.5 in 2013 (National Population Commission & ICF Macro International, 2014). The country currently ranks as number seven on the list of the ten most populous countries in the world (World Population Review, 2019). Nigeria's population is currently estimated to be about 190 million and projected to exceed 300 million by 2050, thus, overtaking the USA as the third-largest country in the world, if fertility continues at its current trend (United Nations, 2015). In comparison to other African countries like Ghana (TFR of 4.0), the TFR of Nigeria, at 5.5, remains above the Sub-Saharan Africa TFR average of 5.4 (Mberu & Reed, 2014).

The country's TFR ranges from 4.3 children per woman in the South-South region to 6.7 in the North-West region; notable variations exist in TFR across the country's six regions (National Population Commission & ICF Macro International, 2014). With the nation's estimated annual growth rate of 2.60% and more than 40% of the population below 14 years, achieving sustainable fertility decline in the nearest decades thus becomes an overreaching goal (Akinyemi & Isiugo-Abanihe, 2014; IndexMundi, 2018).

Against several interventions and population-related policies aimed at achieving fertility reduction in the country, the goal to achieve a reduction in national population growth rate to 2% or lower by 2015, and reduce the TFR by at least 0.6 children every five years by encouraging child spacing through the use of family planning, as stated in the Nigerian government population policy is far from being achieved (NPC, 2004). This indicates the necessity for more targeted interventions to achieve lowered fertility in the country towards the achievement of economic development and the sustainable development goals (Sachs, 2012; Starbird, Norton, & Marcus, 2016).

High fertility tends to reduce the economic development of a nation as the quality of the population is compromised for quantity (Ushie, 2009; Ushie, Ogaboh, Olumodeji, & Attah, 2011). In Nigeria, many studies have associated high fertility with factors like early age at marriage (Gayawan & Adebayo, 2014; Mberu & Reed, 2014), early age at childbearing (Gayawan & Adebayo, 2013; Olatoregun, Fagbamigbe, Akinyemi, Oyindamola, & Bamgboye, 2014), high social values placed on childbearing and son preference (Jegede & Fayemiwo, 2014; Milazzo, 2014), unmet need for modern contraception and high infant and child mortality rate (Adedini, Odimegwu, Imasiku, & Ononokpono, 2015; Mekonnen & Worku, 2011). The adverse outcomes of high fertility include high unemployment rate, scarce or limited economic opportunities, reduced educational opportunities, high poverty rate with more than half the population living on less than two dollars a day, and limited

availability of health care services, as well as increased infant/child and maternal mortality (Ezeh, Bongaarts, & Mberu, 2012; Hogan *et al*., 2010; Mishra & Smyth, 2010; Ogun, 2010).

In the event of the newly set Sustainable Development Goals by 2030, world leaders and policymakers recognized the importance of education and emphasized its need especially for women as a fundamental tool for empowerment (Bloom, Canning, Fink, & Finlay, 2009; Costanza, Fioramonti, & Kubiszewski, 2016). Education enhances decision-making power and aids women to make well-informed and healthy fertility choices (Thévenon, Ali, Adema, & del Pero, 2012). Also, studies have shown that fertility varies significantly among women with different levels of schooling (Ainsworth, Beegle, & Nyamete, 1996). A study in Ethiopia established that higher education is associated with smaller number of children (Mekonnen & Worku, 2011). In Nigeria also, studies have consistently indicated lower fertility among women with secondary and higher levels of education (Adebowale, 2019; Ajala, 2014; Mberu & Reed, 2014; Solanke, 2015). Thus, a significant increase in women's education at all levels is accompanied by a decline in fertility (National Population Commission & ICF Macro International, 2014; Ushie *et al*., 2011).

Another proximate determinant linked with fertility behaviour is the occupational status of a woman (Bick, 2015; Bloom *et al*., 2009; Kalwij, 2000). A woman's fertility outcome or preference is related to her employment status and the type of job she engages in (Bernhardt, 1993; Bratti, 2003; Kalwij, 2000). The participation of women in the labour force has increased over the years in Nigeria from 56.1% (2003) to 61.8% (2013) (National Population Commission & ICF Macro International, 2014). Another study found that employment opportunities have an impact on fertility behaviour (e.g., sex preference) and levels (Ushie *et al*., 2011). Women employed in the formal sector have been noted to have fewer children, though, another study associated unemployment with lowered fertility (Babalola & Akor, 2013). Fertility tends to be lower during periods of unemployment among highly educated women and men, but not among their less-educated counterparts (Kreyenfeld & Andersson, 2014). While resources are becoming increasingly inadequate to meet household needs, a study found that women want to gain some financial independence before moving into marriage or any other form of commitment (Manning, Trella, Lyons, & Du Toit, 2010). Increasing proportions of men now look for employed women as partners, thus, reducing marriage chances of unemployed women.

Apart from educational attainment and occupational endeavour, another significant proximate determinant of fertility behaviour is a household's wealth index. Empirical evidence shows clear-cut variations in the fertility levels of women in different wealth quintile (Macro, 2014; Mberu

& Reed, 2014). The household wealth index is frequently adopted as a proxy to capture the economic status of individuals or their households. Understanding the income of an individual or household could be difficult due to multiple undisclosed streams of income and other insufficient or misleading information on expenses. Hence, the reason for resorting to the use of wealth index. Studies have also indicated that the socioeconomic and livelihood situation of women contributes to fertility behaviour across many regions (Mberu & Reed, 2014; Olatoregun *et al.*, 2014).

While previous studies have linked individual socioeconomic characteristics to fertility behaviour, limited studies have examined their influence when combined with derived socioeconomic status (SES) index. This study combined variables at the individual (educational level, work status) and household level (household wealth) to derive a composite variable, i.e., socioeconomic status; and examined its effect on reported CEB of women within reproductive ages 15-49 in Nigeria.

Methods

This study utilized the Nigerian Demographic and Health Survey (NDHS) of 2003, 2008, and 2013. The DHS is a nationally representative survey that provides up to date information on the population and health indicators of a country. The 2003 NDHS used two-stage cluster design sampling to select 365 clusters (200 in rural areas and 165 in urban areas) and chose 50 households systematically from each cluster. A total of 7,620 eligible respondents were successfully interviewed. The NDHS 2008 had a total of 888 clusters (286 urban and 602 rural) selected from a complete list of households with an average of 41 households taken from each cluster through equal probability systematic sampling, a total of 33,385 women were interviewed. Lastly, NDHS 2013 used a three-stage stratified sampling design to select a total of 904 clusters (372 urban and 532 rural) with a fixed representative sample of 45 households per cluster and had completed interviews of 38,948 eligible respondents.

In this study, some variables retained the categorization in the NDHS while some others were regrouped. Explanatory variables including work status, household wealth, residence, and regions retained the DHS recodes. Other recoded variables were: age [15-24, 25-34, 35-44, 45+]; educational attainment [none, primary, secondary +]; marital status [not married, married/living together, others], and ideal number of children [<2, 2-4, >4].

The key explanatory variable, ‘socioeconomic status (SES), is a composite index derived from both individual level [educational attainment, work status] and household level factors [household wealth index]. A composite score was generated from the sum of the three variables. The score ranged from 1-9. Thereafter, this was categorized into low SES (1-3), middle

SES (4-6), and high SES (7+). The outcome variable in this study is fertility behaviour measured by the variable – 'total children ever born'. The count variable was further grouped into three ordered - <2, 2-3, 4+ categories.

The study analysed the women recode file of the NDHS 2003, 2008, and 2013. The datasets are the three most recent NDHS datasets available in the country. The three surveys were analysed to examine patterns and variations in reported fertility behaviour of women by their socioeconomic status over a period of 11 years. The analysis was carried out at univariate, bivariate, and multivariate level. The descriptive analysis reported the percentages and the bivariate employed Pearson chi-square test to assess the association between outcome and explanatory variables. Using ordinal logistic regression, the multivariate analysis guided by two models examined the relationship between socioeconomic status and reported CEB. Ordinal logistic regression is often used when the response variable is ordinal in nature (Bender & Grouven, 1997; Das & Rahman, 2011). The first unadjusted model regressed CEB on SES, while the second model adjusted for selected background characteristics including fertility preference measured by ideal number of children. The coefficients were estimated at 5% level of statistical significance and 95% confidence interval (CI). All estimates were weighted appropriately as stipulated for DHS surveys. The analysis was carried out using Stata version 14.0.

Results

A total of 79,518 women were included in the analysis: 7,598 – 2003, 32,972 – 2008, and 38,948 – 2013. Table 1 shows information on the selected background characteristics of respondents. The mean age of respondents was 28.0 years in 2003, 28.7 years in 2008, and 28.9 years in 2013. Women with no education had the highest proportion in 2003 (41.5%), while those with secondary and higher education were more in 2008 (44.6%) and 2013 (44.9%). Overall, across the surveys, approximately six of every ten women were working (60.3%). Similarly, over six out of ten women resided in a rural area (61.2%). Also, most of the respondents were from the North-West region (27.5%). Respondents who were married or living together with a partner constituted 71.0% and those from the richest wealth quintile households were 22.9%. Women who reported having less than two children (40.9%) and whose ideal number of children were more than four (70.9%) had the highest proportion in all surveys.

The distribution of fertility of women by selected background characteristics is shown in Table 2. High CEB was prevalent among older women compared to women of younger ages with p-value <0.000 across all surveys. Educational attainment was significantly associated with reported CEB. Women with none or primary education had increased CEB compared

to those with secondary or more education (p<0.000). Work status, household wealth, marital status, place of residence, and region of residence were all significant predictors of reported CEB among women aged 15-49 years across the three surveys. A very high proportion of women who reported 2-4 children as ideal reported CEB of below 2 children in 2003 (67.9.0%, p<0.001), 2008 (63.5%, p<0.001), and 2013 (62.3%, p<0.001). Further, the socioeconomic status of women strongly predicted reported CEB (p<0.000). More women with middle socioeconomic status reported CEB of 2-3 children compared to those with low socioeconomic status in 2003. This pattern remained in 2008 and 2013. The higher the socioeconomic status of women, the lower the reported CEB.

Table 3 presents the result of ordinal logistic regression. In the unadjusted model, the results showed that if women were to change their SES from low to high, the CEB would reduce by -0.502 (p<.001) and by -1.038 (p<.000). This pattern remained across the survey years of 2008 and 2013. In the adjusted model, the ordered log-odds of a decreased CEB only remained if SES were to change from low to high while the other variables are held constant in the model for 2003 (β = –0.524, p<0.001), 2008 (β = –0.562, p<.001), and 2013 (β = –0.719, p<.001). Also, age and marital status of women were significantly associated with reported CEB of women in the adjusted model in all the survey years. For every unit increase in age, the ordered log-odds of CEB would increase when the other variables in the model are held constant.

In 2003, if women were to change their region of residence from north-central to north-east, the ordered logit for CEB would increase by 0.217, p<.041 while other variables in the model were held constant. In 2008, residing in the north-east (β = 0.253, p<.000) and north-west (β = 0.142, p<.013) would increase the probability of an increased CEB, while residing in the south-east (β = -0.155, p<.031) and south-west (β = –0.143, p<.023) would reduce the ordered log-odds for a high CEB when other variables are held constant. In 2008, while a change in residence from north-central to north-west would result in increased CEB (β = 0.149, p<.003), women who changed residence from north-central to south-east would have reported low CEB (β = –0.177, p<.013).

A change in ideal number of children from under 2 to between 2 and 4 would reduce the ordered log-odds of a high CEB when other variables in the model are held constant, with a significant association in 2008 (β = –0.604, p<.000) and 2013 (β = –1.035, p<.0001).

Table 1. Selected background characteristics of Women aged 15-49 years (2003 - 2013)

Variable	2003 (7,598) Frequency (%)	2008 (32,972) Frequency (%)	2013 (38,948) Frequency (%)	Total (79,518) Frequency (%)
Age	mean age = 28.03	mean age = 28.65	mean age = 28.86	
15-24	3,196 (42.0)	12,450 (37.8)	14,576 (37.4)	30,222 (38.0)
25-34	2,320 (30.5)	10,834 (32.9)	12,612 (32.4)	25,766 (32.4)
35-44	1,500 (19.8)	6,863 (20.8)	8,338 (21.4)	16,702 (21.0)
45+	582 (7.7)	2,825 (8.5)	3,422 (8.8)	6,829 (8.6)
Educational Attainment				
None	3,156 (41.5)	11,741 (35.6)	14,729 (37.8)	29,626 (37.3)
Primary	1,625 (21.4)	6,512 (19.8)	6,734 (17.3)	14,870 (18.7)
Secondary +	2,817 (37.1)	14,719 (44.6)	17,485 (44.9)	35,022 (44.0)
Currently Working				
No	3,322 (43.7)	13,324 (40.4)	14,888 (38.2)	31,535 (39.7)
Yes	4,276 (56.3)	19,648 (59.6)	24,060 (61.8)	47,984 (60.3)
Household Wealth				
Poorest	1,407 (18.5)	6,089 (18.5)	7,132 (18.3)	14,628 (18.4)
Poorer	1,431 (18.8)	6,157 (18.7)	7,428 (19.1)	15,015 (18.9)
Middle	1,511 (19.9)	6,273 (19.0)	7,486 (19.2)	15,271 (19.2)
Richer	1,523 (20.0)	6,858 (20.8)	7,992 (20.5)	16,373 (20.6)
Richest	1,726 (22.7)	7,595 (23.0)	8,910 (22.9)	18,230 (22.9)
Marital Status				
Not married	1,922 (25.3)	8,292 (25.2)	9,326 (23.9)	19,540 (24.6)
Married / Living together	5,318 (70.0)	23,280 (70.6)	27,830 (71.5)	56,427 (71.0)
Others	357 (4.7)	1,400 (4.2)	1,793 (4.6)	3,551 (4.4)
Residence				
Urban	2,622 (34.5)	11,788 (35.8)	16,414 (42.1)	30,825 (38.8)
Rural	4,975 (65.5)	21,184 (64.2)	22,534 (57.9)	48,693 (61.2)
Regions				
North-Central	1,119 (14.7)	4,677 (14.2)	5,572 (14.3)	11,368.6 (14.3)
North-East	1,359 (17.9)	4,212 (12.8)	5,766 (14.8)	11,337 (14.3)
North-West	2,086 (27.5)	7,887 (23.9)	11,877 (30.5)	21,850 (27.5)
South-East	735 (9.7)	4,042 (12.3)	4,476 (11.5)	9,254 (11.6)
South-South	1,341 (17.6)	5,417 (16.4)	4,942 (12.7)	11,699 (14.7)
South-West	958 (12.6)	6,737 (20.4)	6,314 (16.2)	14,010 (17.6)
CEB				
<2	3,324 (43.8)	13,454 (40.8)	15,752 (40.4)	32,530 (40.9)
2-3	1,366 (18.0)	6,880 (20.9)	8,072 (20.7)	16,318 (20.5)
4+	2,908 (38.2)	12,638 (38.3)	15,123 (38.8)	30,670 (38.6)
Ideal No of children				
< 2	10 (0.1)	600 (1.8)	299 (0.8)	909 (1.1)
2-4	1,835 (24.1)	9,438 (28.6)	10,958 (28.1)	22,231 (28.0)
> 4	5,753 (75.7)	22,934 (69.6)	27,691 (71.1)	56,378 (70.9)

Table 2. Association between Women's Characteristics and Fertility (2003-2013)

Characteristics	2003 (n = 7,598)				2008 (n = 32,972)				2013 (n = 38,948)			
	CEB			p-value	CEB			p-value	CEB			p-value
	<2	2-3	4+		<2	2-3	4+		<2	2-3	4+	
Age												
15-24	81.8	15.3	2.9		80.0	17.0	3.1		81.0	16.9	2.1	
25-34	24.0	28.6	47.4	p<0.000	26.2	32.1	41.7	p<0.000	24.7	31.6	43.7	p<0.000
35-44	7.6	11.5	80.9		7.4	15.3	77.3		7.9	15.3	76.7	
45+	6.7	6.9	86.3		5.3	8.7	86.0		5.0	10.4	84.6	
Educational Attainment												
None	26.6	19.7	53.7		21.7	22.4	55.8		23.8	21.4	54.9	
Primary	36.2	19.6	44.2	p<0.000	26.8	22.8	50.4	p<0.000	25.7	21.3	53.1	p<0.000
Secondary +	67.3	15.1	17.6		62.2	18.8	19.1		60.2	20.0	19.9	
Currently Working												
No	60.5	15.7	23.8		58.3	16.9	24.8		60.5	16.8	22.7	
Yes	30.7	19.7	49.6	p<0.000	29.0	23.5	47.5	p<0.000	28.0	23.2	48.8	p<0.000
Household Wealth												
Poorest	31.9	19.4	48.7		28.9	22.0	49.1		27.1	20.4	52.5	
Poorer	34.6	18.6	46.8		30.8	21.1	48.1		33.7	20.4	46.0	
Middle	44.3	16.8	38.9	p<0.000	39.1	19.7	41.2	p<0.000	41.0	18.9	40.1	p<0.000
Richer	48.0	17.3	34.8		48.8	19.1	32.1		45.0	20.3	34.7	
Richest	56.7	18.0	25.3		52.7	22.3	25.0		52.2	23.2	24.6	
Marital Status												
Not married	98.9	1.0	0.1		98.5	1.2	0.3		98.8	1.0	0.2	
Married / Living together	24.7	23.9	51.4	p<0.000	21.6	27.5	50.9	p<0.000	22.2	27.0	50.8	p<0.000
Others	30.9	21.9	47.2		18.4	26.9	54.7		20.9	25.6	53.5	
Residence												
Urban	49.5	17.4	33.1		48.5	21.2	30.3		47.7	20.4	31.9	
Rural	40.7	18.3	41.0	p<0.000	36.5	20.7	42.8	p<0.000	35.2	21.0	43.9	p<0.000
Regions												
North-Central	44.0	19.4	36.6		40.4	21.9	37.7		42.2	21.8	36.0	
North-East	32.7	19.3	48.1		30.7	20.5	48.9		35.2	21.8	43.1	
North-West	33.4	20.2	46.4	p<0.000	28.3	22.3	49.4	p<0.000	31.8	19.7	48.5	p<0.000
South-East	58.8	12.9	28.3		53.1	14.9	32.0		52.9	15.7	31.4	
South-South	54.7	14.1	31.2		50.6	19.3	30.1		51.1	18.8	30.1	
South-West	54.9	18.8	26.3		46.8	23.6	29.6		42.8	25.8	31.4	
Ideal No of children												
< 2	60.6	---	39.4		38.4	19.3	42.4		39.9	11.1	49.1	
2-4	67.9	16.0	16.1	p<0.001	63.5	21.7	14.8	p<0.001	62.3	22.3	15.4	p<0.001
> 4	36.0	18.6	45.4		31.5	20.6	47.9		31.8	20.2	48.0	
Association between Women's Socioeconomic Status and Fertility												
Socioeconomic Status												
Low	31.6	20.1	48.3		26.3	22.4	51.3		27.7	21.3	51.0	
Middle	45.9	15.6	38.5	p<0.000	43.3	18.6	38.1	p<0.000	43.1	17.9	39.0	p<0.000
High	57.1	18.8	24.2		53.6	22.0	24.4		51.0	23.5	25.5	

Table 3. Ordered logit models for fertility behaviour of Women by socioeconomic status and individual characteristics (2003-2013)

Variables	2003			2008			2013		
	β	**95% CI**	**p-value**	**β**	**95% CI**	**p-value**	**β**	**95% CI**	**p-value**
	Model I								
Socioeconomic status (ref: low)									
Middle	–0.502	–0.628 - –0.375	<.000	–0.638	–0.699 - –0.577	<.000	–0.583	–0.649 - –0.518	<.000
High	–1.038	–1.196 – 0.880	<.000	–1.146	–1.213 - –1.079	<.001	–1.025	–01.099 - –0.951	<.000
	Model II								
Socioeconomic status (ref: low)									
Middle	0.064	–0.121 – 0.249	.496	0.052	–0.032 – 0.136	.227	0.054	–0.040 – 0.147	.258
High	–0.524	–0.828 - –0.222	<.001	–0.562	–0.688 - –0.436	<.001	–0.719	–0.843 - –0.595	<.000
Age (ref: 15-24)									
25-34	2.550	2.370 – 2.730	<.001	2.354	2.270 – 2.438	<.001	2.622	2.537 – 2.708	<.001
35-44	4.011	3.741 – 4.282	<.001	3.871	3.761 – 3.980	<.000	4.091	3.976 – 4.207	<.001
45+	4.383	4.025 – 4.743	<.001	4.315	4.156 – 4.474	<.000	4.448	4.284 – 4.612	<.000
Marital Status (ref: not married)									
Married / Living together	4.519	3.730 – 5.308	<.001	4.435	4.197 – 4.672	<.000	4.631	4.383 – 4.879	<.000
Others	3.728	2.899 – 4.558	<.001	3.960	3.692 – 4.228	<.000	4.092	3.828 – 4.355	<.000
Residence (ref: urban)									
Rural	0.094	–0.083 – 0.272	.297	0.077	–0.008 – 0.163	.076	0.077	–0.013 – 0.167	.094
Regions (ref: north-central)									
North-East	0.217	0.009 – 0.426	<.041	0.253	0.124 – 0.381	<.000	–0.034	–0.161 – 0.093	.603
North-West	–0.045	–0.259 – 0.168	.674	0.142	0.030 – 0.254	<.013	0.149	0.051 – 0.248	<.003
South-East	–0.356	–0.734 – 0.023	.065	–0.155	–0.296 - –0.014	<.031	–0.177	–0.316 - –0.038	<.013
South-South	0.032	–0.275 – 0.339	.836	–0.056	–0.190 – 0.077	.407	–0.057	–0.191 – 0.076	.399
South-West	–0.222	–0.469 – 0.026	.079	–0.143	–0.266 - –0.020	<.023	0.053	–0.074 – 0.181	.412
Ideal No of children (ref: < 2)									
2-4	–1.449	–3.039 – 0.140	.074	–0.604	–0.867 - –0.341	<.000	–1.035	–1.394 - –0.677	<.001
> 4	–0.420	–2.009 – 1.169	.603	0.420	0.166 – 0.673	<.001	0.038	–0.312 - –0.388	.831

Model I: Crude Coefficient; Model II: adjusted Coefficients

Discussion

This study examined the effect of socioeconomic status on fertility behaviour among women aged 15-49 years using ordinal logistic regression. The study found a significant association between reported CEB and women SES. Lower fertility was associated with increased SES. This finding is consistent with an earlier study which found that an improvement in socioeconomic status is vital to achieving fertility reduction (Williams *et al*., 2013). Likewise, when selected background characteristics were controlled, the pattern found was similar to the unadjusted model whereby a change in SES from low to high would reduce reported CEB. As found in this study, earlier studies have also established that socioeconomic characteristics act as underlying determinants of fertility behaviour (Adhikari, 2010; Okezie, Ogbe, & Okezie, 2010).

The index – SES – used in this study was derived from a combination of individual (education, work status) and household (household wealth quintile) variables. Educational attainment of a woman is synonymous to her fertility. Previous studies showed that educated mothers will more likely have lower births and well-spaced births than uneducated mothers implying higher infant and child survival (Askew, Maggwa, & Obare, 2017; Basu, 2002; Ndahindwa *et al*., 2014). Also found in this study and corroborated by existing evidence is a significant association between work status and reported CEB as working women tend towards lower fertility compared to non-working women (Mishra & Smyth, 2010).

Working women would more likely be autonomous in making decisions that affect their reproductive outcomes such as the use of modern contraceptives, delayed age at first marriage, and age at first birth as child-rearing reduces the time available for work and clashes with personal aspirations (Mishra & Smyth, 2010; Patidar, 2018). Another study also reported that factors such as age at marriage, age at first conception, level of education, and employment status were directly associated with fertility behaviour. On the other hand, the indirect factors include religion, ethnicity, husband's education and occupation, place of residence, employment opportunities in the modern sector, and household wealth (Adhikari, 2010; Okezie *et al*., 2010).

The findings of the study demonstrated that wealthier women reported having a lesser number of children compared to those who are poor (Askew *et al*., 2017). This finding is consistent with other studies, which established that women who have high SES are often more educated. Thus, they will likely participate more in labour force, as well as have more negotiating power in the household to adopt family planning methods thereby reducing unplanned pregnancies (Adebowale, Gbadebo, & Afolabi, 2016; Adhikari, 2010; Porter & King, 2012; Takyi, 1993). Two of the seventeen sustainable development

goals aim to provide quality education,(Goal 4) and achieve gender equality (Goal 5) (Kumar, Kumar, & Vivekadhish, 2016). Increased access to education and decent work especially for women and girls is a tool for a sustainable economy. Increased participation of women especially in formal jobs reduces the gender inequality gap and promotes economic growth and development. Women who are educated would make better informed decisions regarding their health and that of their family (Obiyan & Kumar, 2015; Soetan & Obiyan, 2019; Solanke, Amoo, & Idowu, 2018).

As expected, the age of women and marital status were significant predictors of fertility in the study. Older women reported higher CEB compared to those in younger ages because the former gradually tended towards completed fertility. Currently married women or those living together with a partner had higher fertility compared to others due to increased exposure to intercourse, conception, and childbearing. Further, this study highlights existing differentials in the fertility of women across the geo-political zones in the country. Women in the south were more likely to report lower fertility than those in the north (Adebowale, 2019; Solanke, 2015). Some of the factors attributed to this included early age at marriage, low educational attainment, and low autonomy of women (Ayo, Adeniyi, & Ayodeji, 2016; Soetan & Obiyan, 2019).

Recent demographic indicators of the country showed that about 89 dependents per 100 working-age adults and 44% of the population are aged under 15 years, which implies fertility will keep booming even if TFR is to reduce from its current average rate of 5.7 children per woman. The cost of high fertility and rapid population growth in the country is huge. These put further pressure on the limited resources and deepen poverty among the population. It is obvious that high fertility in the country would make achieving the national population policy of 2004 to reduce TFR to become unachievable. Hence, Nigeria needs urgent steps to curb the rapid population growth.

Conclusion

This study has contributed to the ongoing discourse on fertility and its determinants in Nigeria. It further reiterated that socioeconomic status (SES) of a woman is a strong predictor of fertility. The higher the socioeconomic status of a woman, the more the likelihood of reduced fertility. High fertility poses several challenges to women, households, and the country. Hence, it becomes important to advocate for policies that enhance the economic status of women. While debates have been ongoing as to how to achieve lowered fertility in many African nations including Nigeria, this study proposes a multidimensional and contextual approach to attain this. First, programs that will create or increase educational and employment opportunities to improve

the socioeconomic status of women should be encouraged. Second, this study calls for the development and implementation of policies that abolish early age at marriage in the country. Third, regulating fertility should become a priority especially through indirect approaches such as encouraging girl-child education in all regions of the country. Other effective strategies that would change people's mindset in the country towards a low ideal family size should be embarked upon.

Conflict of Interest

The authors declare none.

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