

## ANALYSIS OF THE IMPACT OF REPRODUCTIVE HEALTH OUTCOMES ON WOMEN'S LABOUR FORCE PARTICIPATION AND EARNINGS IN NIGERIA

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### ABSTRACT

Negative reproductive health outcomes have long been blamed for being one of the main causes of low women's participation in the formal employment sector in a developing country like Nigeria. This study undertakes an empirical analysis of women's reproductive health outcomes and labour force participation in Nigeria. Specifically, the study analyzed the impact of reproductive health outcomes on women's labour force participation and earnings in Nigeria. The study used mixed research methodology to study the research problem across the entire country. First, it uses a nationally representative quantitative data from the National Demographic Health Survey reports for 2003, 2008, 2013 and 2018. Secondly, cross-sectional micro- data were also collected from two study areas comprising one urban and one rural to test the validity of the hypothesis raised in this study. A questionnaire design, focus groups and key-informants' interviews were used to elicit information from respondents. The study used multi-stage sampling technique to select 400 women of reproductive age in the study areas. Various analytical tools such as chi-square, cross-tabulations, and logistic regression were used to analyze the data collected from the field. The study found that women's reproductive health outcomes such as fertility rate, child spacing practice and contraceptive prevalence rate have negatively impacted women's labour force participation and earnings in the study areas. Hence, the negative reproductive health outcomes have not given women the ample opportunity to develop the necessary educational capacities to engage in formal employment. From the cross-sectional survey, it was found that 6.54% of the respondents practiced modern family planning which is below the national benchmark of 64.34% while 92.92% of the respondents had birth interval of less than two years which is 100 against the government's policy of two years child spacing practice. Also, 95.58% of the respondents married at less than 18 years which is against the government's policy of 18 years age of marriage for women. Meanwhile, 85% of the respondents had between 7 to 10 children and above per woman which is against the government's policy of 4 children per woman. In addition, 25.47% of the respondents had formal education while 30.86% were in active formal employment which is 100% against government's policy of women literacy and formal employment rates in Nigeria. Therefore, based on the analysis of the data extracted from the National Demographic Health Survey reports and the cross-sectional survey data collected from the field, this study concludes that reproductive health outcomes have not significantly impacted women's labour force participation and earnings in Nigeria. To this end, this study recommends that, there is need for government, key stakeholders in the private sector and non-governmental organizations to organize sensitization workshops for all religious leaders and household heads on the economic and health benefits of modern contraceptives and two years child spacing practice in order to regulate the reproductive health behaviour's of women so as to ensure their labour force participation.

**Keywords:** Negative Reproductive Health Outcomes, Women's Labour Force Participation and Earnings, Logistic Regression Model

**JEL Classification:** H51, H52, H53 and H75.

## 1. INTRODUCTION

Negative reproductive health outcomes have long been blamed for being one of the main causes of low women's participation in the formal employment sector in a developing country like Nigeria (Funnel & Rogers, 2010). In particular, it has been reported that the ratio of men to women in the formal employment sector of Nigeria from 2003 through 2019 hovered around 85% to 35% despite the goal number 5 of the Sustainable Development Goals to ensure gender equality by 2030 (National Bureau of Statistics [NBS], 2018 & World Health Organization [WHO], 2018). Women constitute half of any country's human endowment. In most developing countries, however, women contribute less than men toward the value of recorded production both quantitatively, (in labour force participation), and qualitatively, (in educational achievements and skills). Underutilization of female labour has obvious economic implications for women's welfare and economic growth (Onarheim *et al.*, 2016; Odu *et al.*, 2015, Babatunde, 2015 & Njiforti *et al.*, 2016). It is also evidenced that Nigeria is the leading contributor to negative reproductive health outcomes globally and has accounted for about 65% of early marriages (of less than 18 years of age), fertility rate of between 5-10 children and above per woman, low child spacing practice, contraceptive prevalence rate of less than 9% and maternal mortality rate of 14% (NDHS, 2018; FMH, 2017 & NURHI, 2016).

Therefore, in view of the above contexts, the potential of positive reproductive health outcomes to increase women's economic participation and improve their living standard has led Nigeria from 2003 up to the current period to be publishing the reproductive health variables electronically. This has also culminated into the formulation of reproductive health policy with policymakers increasingly linking reproductive health issues to economic development. For example, this momentum has led to the configuration of the Sustainable Development Goals (SDGs) which include specific targets to ensure gender equality, increase the rate of women's participation in the formal employment, increase women's universal access to reproductive healthcare services and to end poverty by 2030 among others (WHO, 2016; NURHI, 2018; Tariq *et al.*, 2014 & Patton, 2015).

However, a general observation of the reproductive health variables from 2003 to 2018 across the six geo-political zones in Nigeria have shown that fertility and mortality rates are still rising while contraceptive prevalence rate and child spacing practice are still very low. This contradicts the global benchmark of fertility and contraceptive prevalence rates of 4 children per woman and 64.34% contraceptive usage per woman of child-bearing age for developing countries. In addition, the high fertility and low contraceptive prevalence rates also contradicts the national demographic policy of trying to have a sustained level of population growth, low fertility rate and high women's economic participation (NDHS, 2003, 2008, 2013 & 2018; ICPD, 1994; NPP, 1988 & 2004; World Bank, 2015; UNICEF, 2012 & Njiforti *et al.*, 2016). Consequently, it is observed that in the six geo-political zones across Nigeria, fertility and contraceptive prevalence rates are not in line with the global benchmarks for a developing country like Nigeria. For example, between 2003, 2008, 2013 and 2018, the North East had fertility rates of 7, 7.3, 6.3 and 7.5 per woman with contraceptive prevalence rates of 4.2%, 4%, 2% and 2.2% while North Central had fertility rates of 5.7, 5.5, 5.7 and 5.8 per woman with contraceptive prevalence rates of 13.3%, 13%, 12.4% and 12.6%.

Further, between 2003, 2008, 2013 and 2018 periods, the North West had fertility rates of 6.7, 7.3, 6.7 and 6.9 per woman with contraceptive prevalence rates of 4%, 2.8%, 3.6% and 3.8% during these four periods, the fertility rates for the South West geo-political zone varied between 4.1, 4.5, 4.6 and 5.2 per woman with contraceptive prevalence rates of 32%, 31.7%,

24.9% and 25.2%. Meanwhile, between 2003, 2008, 2013 and 2018, the South-East geo-political zone had fertility rates of 4.6, 4.7, 4.5 and 4.6 per woman with contraceptive prevalence rates of 22.5%, 23.4%, 11% and 12.6%. Also, between 2003, 2008, 2013 and 2018, South-South had fertility rates of 4.6, 4.7, 4.3 and 4.8 per woman with contraceptive prevalence rates of 25.4%, 26.2%, 16.4% and 17.2% (NDHS, 2003; 2008; 2013 & 2018). However, high fertility and low contraceptive prevalence rates are also observed in the rural and urban areas of these geo-political zones across the country. For instance, the current fertility rates per woman for urban and rural areas for the four periods stand at 4.9 and 6.1 for 2003, 4.7 and 6.2 for 2008, 4.7 and 6.2 for 2013 as well as 4.8 and 7.5 for 2018. Contraceptive prevalence rates for urban and rural areas also stand at 20.2% and 9.4% for 2003, 25.9% and 9.4%, for 2008, 16.9% and 5.7% for 2013 as well as 17% and 6.2% for 2018 (NDHS, 2003; 2008; 2013 & 2018). It is evidenced that high fertility rate, low contraceptive prevalence rate and low child spacing practice are important predictors of maternal deaths and low women's participation in the formal employment sector of Sub-Saharan African countries (Joshi, 2012; Njiforti *et al.*, 2016; Anyawu *et al.*, 2015; Reichert & Rudzitus, 2014 & Madalla, 2009). Therefore, it is against this backdrop that this paper seeks to provide answer to the research question below: What is the impact of reproductive health outcomes on women's labour force participation and earnings in Nigeria?

## 2. CONCEPTUAL LITERATURE

### 2.1 Reproductive Health Outcomes

According to WHO (2012) "reproductive health is the capability to procreate and the freedom to decide if, when and how often to do so in order to avoid being dead due to reproductive cause". Reproductive health is based principally on the right of women to know about and obtain safe, effective, affordable and acceptable methods of family planning and the right of women to have access to appropriate and good quality healthcare services to enable them to have a safe pregnancy and birth (United States Agency for International Development [USAID], 2014; Kreyenfeld & Anderson, 2014). In a developing country like Nigeria, the likelihood of women dying from pregnancy related causes is nearly 1 in 50 (NDHS, 2018). Reproductive health outcomes play a significant role on the rate of formal and informal employment participation of women especially in the third world countries (ILO, 2018; WHO, 2018 & UNICEF, 2016).

### 2.2 Women's Labour Force Participation

According to International Labour Organization (ILO) (2018) and United Nations (2018), female labour force participation rate is defined as the proportion of the female population of working age who are employed (including self-employed) or are seeking work. Thus, United Nations (2018) reports that the female labour force participation rate will be measured by the industry sector namely the agriculture, manufacturing and services sectors. To this end, it is helpful to classify the female labour force into three groups: young females (15-24 years old); prime age females (25-54 years old); and older females (55- 59 years old). The female labour force participation rate for each industry and every sector is examined by region (urban and rural areas), education, household size, marital status, migrant status, presence of children, as well as by ethnic origin (indigenous and non-indigenous).

### 2.3 Theoretical and Empirical Studies on Women's Labour Force Participation

The theoretical outlook on labour force participation reflects how an individual makes choice

among alternative uses of his/her time. According to the labour force participation theory, the manner in which individuals allocate their time depends on choices between work and leisure in response to a wage increase (Mincer, 1962). On theoretical grounds, an increase in the individual's wage rate could lead to (a) the income effect, which is negative, i.e., the increase in income leads to a demand for more leisure and consequent reduction in time allocated to work, (b) the price (or substitution) effect, which is positive, i.e., the rise of wages leads to an allocation of more time to work than to leisure. Therefore, the proportion in which time will be allocated between work and leisure given a change in the wage rate depends on the relative values placed on additional income and on leisure by an individual.

However, Mincer (1962) points out that the labour force participation of married women should not be construed only in terms of allocation of time between market work and leisure, since work at home is another activity which most women are engaged in. Therefore, the choices faced by married women can be categorized into three: leisure, work at home and work in the market. In utilizing the labour force participation theory in a developing economy like Nigeria, there are issues that require some special attention. First of all, there is a tenuous link between the labour force concepts and the labour force variables often used in empirical studies. Economic theory assumes that individuals allocate their time between market work and other activities in finely divisible units e.g. hours of work, whereas the actual measured variables are whether an individual is in the labour force or not, whether employed or not, and whether formally and fully employed or works below full-time, among several other factors. Although the theoretical concepts of economic models take into account the family context within which married women participate in the labour force, by treating labour force participation generally as a matter of individuals' choices under the condition that the real wage increases, many empirical analyses neglect other conditions that are likely to affect an individual's participation or non-participation. To view socio-economic behaviour like that of labour force participation as an individual decision-making process is one approach.

Another approach is to view such a micro-economic behaviour as a household decision-making process. The latter makes the assumption that individual behavioural decisions are made interdependently. It states that they are part of a larger behavioural framework which links the household's behaviour through a process of simultaneous and recursive links. For example, in a household, the school enrolment of children will directly affect employment of mother and vice-versa. If the mother is employed and contributes to household income, it is likely that the household can afford to send the children to school. Conversely, if the children attend school, it is more likely that the mother works because school enrolment will reduce child employment and increase the household income needs (Peek, 1978). This illustrates how a household tends to decide simultaneously on the employment of wife and children's school enrolment. The labour force participation studies in the developing countries have tried to translate the general propositions of labour force participation in the developed countries into models for empirical work. Attempts have been made to find measurable variables to reflect the determinants of labour force participation by looking at a combination of personal characteristics, among other variables. Such personal characteristics include age, marital status, and education, presence of children, household size, wage/income, migration status and health status, among others. Other variables of interest are household characteristics such as relationship to head, husband's occupation, husband's income, husband's employment status-for married women; and the labor market macro-variables such as, the level of unemployment, level of urbanization, type of employment, agricultural employment, proportion of children enrolled in school, and so on (Green *et al.*, 2016 & Hongbin *et al.*, 2015 ). Based on the theoretical analyses discussed above, several empirical studies have been conducted in many countries. For example, Funnel and

Rogers (2010) examined the influence of education (both own and husband's) on labour force participation of married women in Nigeria in wage market employment, self-employment and overall labour market participation. The study confirms not only the influence of own education (both bundled and unbundled) on labour force participation, but also that the husband's education positively influences the labour force participation of married women in Nigeria. The methodology of the study relies on the use of linear probability probit regression model towards the estimation of three labour supply functions on female labour force participation. The results show that own as well as husband's educational backgrounds at all levels positively influence women's labour force participation in different degrees in wage-, self-, and total employment in Nigeria.

Adeyanju *et al.* (2017) used the General Household Survey data of 1998/99 and 2007/2008 to estimate the determinants of labour force participation and earnings in wage employment in Nigeria. In the study, they used two models to verify their hypotheses and these models are: the probit model of labour force participation and the Mincerian human capital model. The contribution of the study to the already vast literature on labour force participation is the inclusion of an important household variable – the presence/absence of an elderly female in the household which is hypothesized to have a positive effect on both male and female participation rate in the wage employment sector of Nigeria. The study found that the presence of elderly female persons increases the probability of labour force participation across all sectors of wage employment for male and female in the 2007/08 GHS data set; while it exercises negative and positive influences on private and public sectors' employment respectively in 1998/1999 data sets.

In addition, the Mincerian human capital model estimated by the study of Adeyanju *et al.* (2017) shows the influence of the traditional human capital variables – education (both total and disaggregated by levels), labour market experience and its square, and urban/rural residence) – on the different wage employment sectors studied for the data sets of 1998/99 and 2007/08. The use of two data sets for this study made possible a comparative analysis with respect to determinants of labour force participation and earnings in the Nigerian economy. Other studies in Nigeria which are not too different from Adeyanju *et al.* (2017) include: Amiri and Gerdtham (2013); and Anyebe *et al.* (2014). In Ghana, Bandura *et al.* (2014) conducted a study on the effect of formal education on female labour force participation using data from the Ghana Living Standard Survey (GLSS4 and GLSS3). The study's underlying assumption was that the two concepts – labour force participation and fertility decisions – are strongly linked and as such they should be studied together. The study used a bivariate regression model to analyze the relationship between education and female labour force participation. The study found a negative and statistically significant relationship between fertility rate and education while education and reduced family size increase labour force participation rate among women in Ghana.

Further, Green and Merick (2014) also examined the influence of religion on female labour force participation in 48 countries, they specified and estimated a probit model with a vector of religious variables among other exogenous predictors. Like many other studies of this nature, the religious women were found to participate less in labour market activities than the non-religious women after controlling for other social and economic variables in the model. The weakness of their empirical work, in this study's view, is the fact that all the data in the 48 developing countries were lumped together in the analysis without being disaggregated for country-specific peculiarities. Even when one of the regression equations reported country-fixed effects, no clear explanation was given for how this was carried out. A disaggregated data

by, for instance, respondents' levels of education, country's residence, region, respondents' age and wealth quintile might possibly have shown different results for developing countries (like Mali, Rwanda, Afghanistan and so on). However, in this present study, an attempt is made to analyze the impact of reproductive health outcomes on women's labour force participation in Nigeria using disaggregated data extracted from the National Demographic Health Survey report for four periods and cross-sectional survey data collected from two study locations unlike the previous studies which examined the correlation between household heads' education, family income and women's labour force participation using aggregated data sets. This is further premised on the thesis that primarily, in the developing countries, Nigeria inclusive, women are not well represented to contribute their quota to the process of economic development and the ratio of women to men in the formal employment sector is extremely low due to women's negative reproductive health situations characterized by early marriages, high parity birth, low child spacing practice and high maternal morbidity and mortality rates.

### 3. METHODOLOGY

This study approached the research problem from macroeconomic and microeconomic perspectives and uses two broad methodological perspectives. First, it uses the National Demographic Health Survey reports for 2003, 2008, 2013 and 2018 to study the research question across the entire country. However, because these quasi-secondary data mask a number of issues and do not render themselves flexible enough, we augmented these with primary-micro data collected from Sabon-Gari and Giwa Local Government Areas of Kaduna State. Therefore, both the secondary information from the National Demographic Health Survey reports and the data from the field survey are mutually reinforcing each other.

#### 3.1 Research Design

This study has two sources of data. It used secondary information from the National Demographic Health Survey reports (NDHS) for 2003, 2008, 2013 and 2018. Field survey data were also obtained through questionnaire, focus group discussion (FGD) and key-informants interviews from two study locations, one rural and one urban. The two sources of data are mutually reinforcing each other. Consequently, the target population for the cross-sectional survey were women of child-bearing age (15-49 years) who were residents of Sabon-Gari and Giwa LGAs. The women of child-bearing age in Sabon Gari and Giwa LGAs had the population of 226,640 and 89,842 which was projected at 3% yearly for the two LGAs. Therefore, the total population was 316,482 comprising women of reproductive age (National Population Census, 2006). Following the studies of Israel (2015) and Popoola (2016), this study selected 400 women of child-bearing age as being representative of the study population.

Since the study areas had eleven wards each, each of these twenty-two wards was given equal chance of being included in the study. Specifically, a multi-stage sampling technique was used in selecting the reproductive healthcare beneficiaries. The first stage was the selection of the communities in both Sabon-Gari and Giwa LGAs. At the second stage, the ratio of the total sample size to the total population was multiplied by the population of women of reproductive age in each community to get the respective sample size for all the 22 communities. Therefore, 286 and 114 reproductive healthcare programmes beneficiaries were selected in all the 22 communities in Sabon-Gari and Giwa LGAs making the total of 400. In addition, the study used questionnaire, focus-group-discussion (FGD) and key-informant-interview to elicit responses from the respondents in order to re-affirm the information provided in the National Demographic Health Survey reports. One of the data gathering instruments used in this study

was questionnaire, the questionnaire comprises two sections, the first section focused on the socio-demographic characteristics and economic activities of the respondents while the second section focused on the compliance rate of women to the use of family planning, government's policy of four children per woman and child spacing practice. However, two Focus Group Discussion sections were also conducted for this study. The first and the second focus group discussions participants for each LGAs stand at 6 to 10 women of reproductive age. The essence of the focus group discussion was to elicit information from the participants about their perceptions on family planning, child spacing practice and fertility rate. Key-informants interviews were also held with some reproductive healthcare facilitators in the private and public health institutions in order to re-affirm the information provided by the women of child-bearing age on their compliance rate to the use of family planning and child spacing practice in the study locations.

### 3.2 Model Specification and Analytical Techniques

The econometrics method used in this study is the qualitative response logistic regression model to analyze the impact of reproductive health outcomes on women's labour force participation in Nigeria. The study also used a set of analytical techniques which include, chi-square, cross tabulation, frequency tables, charts and logistic regression analysis to analyze the data collected from the field. The logistic regression model was adopted to analyze the impact of reproductive health outcomes on women's labour force participation. This model was estimated using the cross-sectional survey data collected through questionnaire from the field. The qualitative response logistic regression model used for this analysis is represented in the equation below:

$$\text{Logit}(y) = \ln\left(\frac{\pi}{1-\pi}\right) = \beta_0 + \beta_1 \text{tfr} + \beta_2 \text{edu} + \beta_3 \text{cpr} + \beta_4 \text{rlgn} + \beta_5 \text{cltr} + \beta_6 \text{chsp} + \beta_7 \text{am} + \beta_8 \text{fay} + u$$

The model above denotes the logistic transformation function with its response probability  $\pi$  where  $y$  connotes the dependent variable which denotes Female Labour Force Participation (FLFP) while TFR, EDU, CPR, RLG, CHSP, CLTR, AM, FAY are independent variables, while  $u$  is the random disturbance white noise or error term and  $\beta_0 - \beta_8$  are unknown coefficients of the model estimated by the likelihood techniques, where  $\ln\left(\frac{\pi}{1-\pi}\right)$  is the odds ratios which represent the natural log-odds of female labour force participation. The Odds Ratios in the model above is the ratio of the probability of a woman to participate in the labour force ( $\pi$ ) to the ratio of the probability of a woman not to participate in the labour force ( $1 - \pi$ ). Note that  $u$  is the random disturbance white noise or error term in the model above and it follows a standard logistic Bernoulli distribution. Therefore, the problem of simultaneity biasedness is avoided during the estimation of the model (Gujarati, 2010 & Pillai *et al.*, 2018).

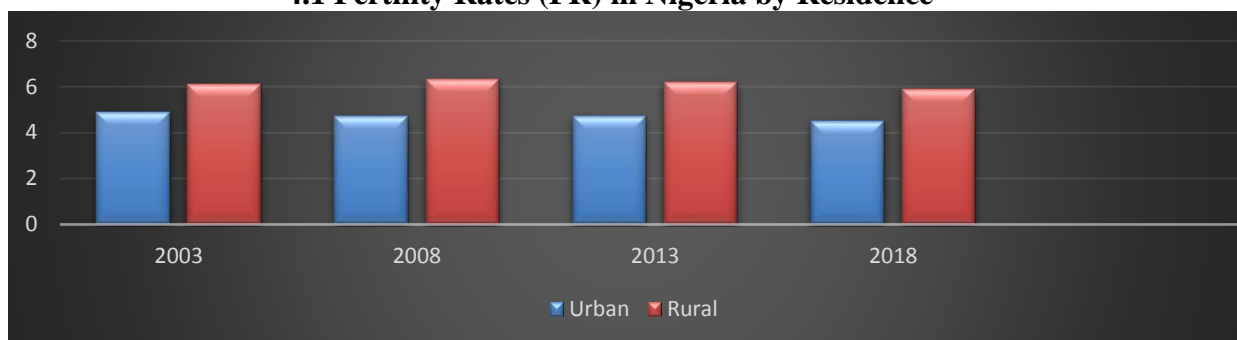
## 4. ANALYSIS OF RESULTS AND DISCUSSIONS OF FINDINGS

The analyses in this chapter are in two parts: the first part analyzes reproductive health variables using a nationally representative data extracted from the National Demographic Survey reports for 2003, 2008, 2013 and 2018 for the six geo-political zones in Nigeria while the second analysis used a cross-sectional survey of two Local Government Areas in Kaduna State, one rural and one urban in order to re-affirm the reproductive health information published in the National Demographic Health Survey reports for the four periods.

## Analysis of Women's Reproductive Health and Labour Force Participation in Nigeria

This section analyzes the various reproductive health indices such as fertility rate, contraceptive prevalence rate, women literacy rate, women's labour force participation, and so on as published in the National Demographic Health Survey reports for 2003, 2008, 2013 and 2018 in Nigeria. The essence of this analysis is to ascertain whether women have the leverage to engage in economic activities that will enable them to contribute their quota to the process of economic growth.

### 4.1 Fertility Rates (FR) in Nigeria by Residence



Source: (NDHS, 2003; 2008; 2013 & 2018)

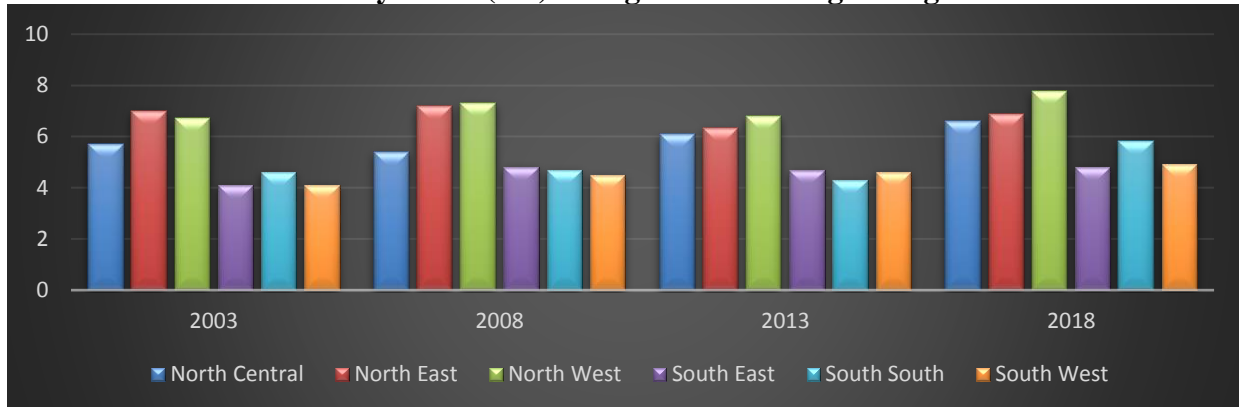
Figure 4.1: Fertility Rates (FR) in Nigeria by Residence

Figure 4.1 shows the fertility rates for 2003, 2008, 2013 and 2018 which are categorized into urban and rural areas. From the figure above, the fertility behaviours of women in the rural areas is high compared to women in the urban areas for all the years. The figure further shows that there is an increasing trend in fertility rate for the rural and urban women for the four periods. The reasons for the high fertility rate in the rural areas can be attributed to low level of education of the rural women, customs and traditions, religion factor, early marriages and so on (NDHS, 2018). This finding is in line with the studies conducted by Njiforti *et al.* (2016) and Mantel *et al.* (2014). In addition, Joshi (2012) and Odu *et al.* (2015) also report that the economic implications of this ugly trend is that high fertility rate strains households' resources, reduces women's educational achievements, reduces women's participation in the formal employment sector and places heavy family burden on households living below the poverty line.

Human Development Index (2021) rated Nigeria as the poorest country in the world, placing Nigeria as the world capital of extreme poverty. This emanates from the soaring population growth, low contraceptive prevalence rate and continuous decline in per capita income of the population. National Bureau of Statistics (NBS) (2021) also reports that if Nigeria population growth rate is not checked by 2050, economic growth rate will slow down by 2.5%.



#### 4.2: Fertility Rates (FR) in Nigeria According to Regions

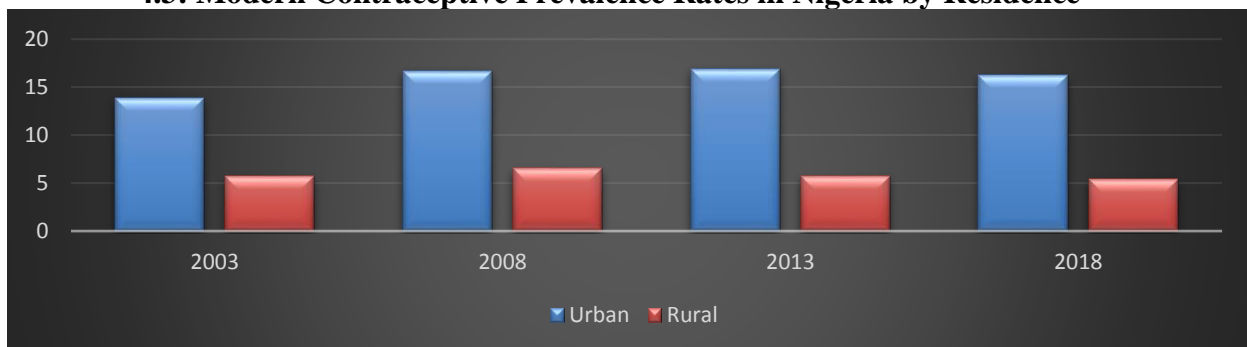


Source: (NDHS, 2003; 2008; 2013 & 2018)

Figure 4.2: Fertility Rates (FR) in Nigeria According to Regions

Figure 4.2 shows that fertility rate across the six geo-political zones especially the northwest, north central and northeast are higher than the other regions with north central, northwest and northeast having fertility rate of between 6 to 7 children and above per woman while the south-south, southeast and southwest had fertility rate of between 4 to 6 children per woman. This is against the government's policy of 4 children per woman. Further, on the average, the current national fertility rate stands at 5.5 children per woman and the population growth rate stands at 3.2% (NDHS, 2018 & NPC & FMH, 2015). This is against the government's target of national fertility rate decline by 0.6 (1.2 children) per year and decline in population growth rate by 2% (1.2 percentage points) per year as stipulated in the 2004 National Population Policy for Sustainable Development. This of course can be attested to by the result from the field survey conducted in 2018 where majority of the respondents had above 9 children per woman. The findings of Joshi (2012) and Odu *et al.* (2015) is in line with this result.

#### 4.3: Modern Contraceptive Prevalence Rates in Nigeria by Residence



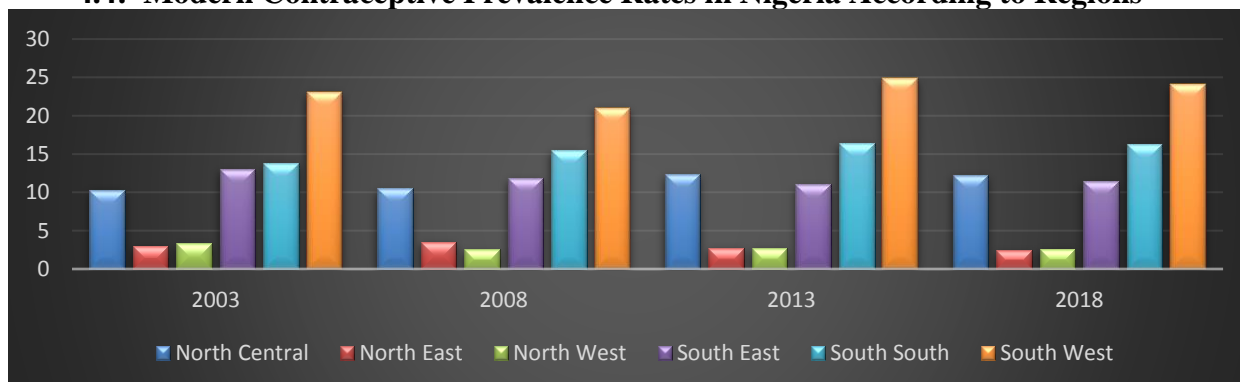
Source: (NDHS, 2003; 2008; 2013 & 2018)

Figure 4.3: Modern Contraceptive Prevalence Rates in Nigeria According to Residence

Figure 4.3 illustrates that the rate of modern contraceptive use in the urban areas across the six geo-political zones in Nigeria is high compared to the rural settlements. This is due to the high level of educational background embedded in the urban dwellers while conservatism such as religion, culture and traditions characterized by rural women are the reasons for low modern contraceptives practice in the rural areas of Nigeria. Although, the current contraceptive prevalence rate of less than 16% and 5% in the urban and rural areas as shown in the graph above is far below the 64.34% benchmark rate for a developing country like Nigeria (NDHS, 2018; NPP, 2004; NPC & FMH, 2019). The implication of the above trend is that the urban

women with high contraceptive practice will have the ample opportunity and the leverage to acquire educational qualifications as well as engage in skills acquisition programmes in order to participate in economic activities that will make them to be more economically independent compared to their rural counterparts with low contraceptive compliance rate (NURHI, 2018 & WHO, 2020).

#### 4.4: Modern Contraceptive Prevalence Rates in Nigeria According to Regions



Source: (NDHS, 2003; 2008; 2013 & 2018)

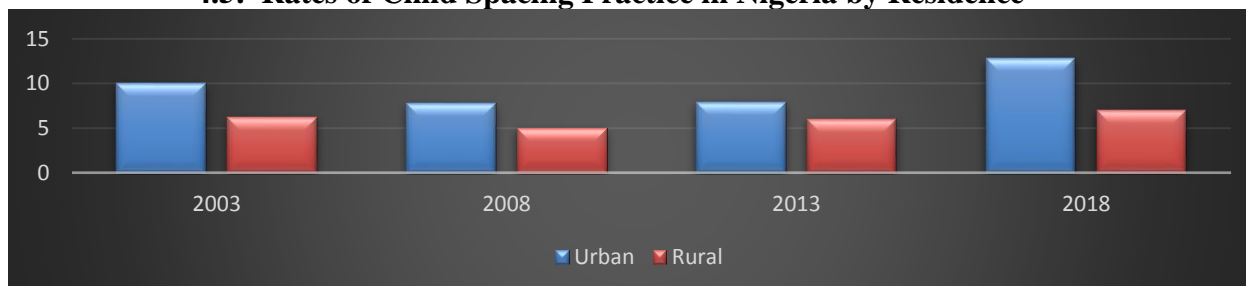
Figure 4.4: Modern Contraceptive Prevalence Rates in Nigeria According to Regions

Figure 4.4 shows the modern contraceptive prevalence rates across the six geo-political zones in Nigeria. The movement of the contraceptive trends show that the rate of modern contraceptive practice in the north central, northeast and northwest geo-political zones is extremely low compared to the other three geo-political zones. This is due to the high level of literacy rate among women in the southern, western and eastern part of Nigeria while conservatism and low level of education are accounted as the reasons for the low rate of contraceptive practice in the northern Nigeria (FMH, 2019 & Field Survey, 2018).

Nationally, on the average, the modern contraceptive prevalence rate in Nigeria currently stands at 9.8% (NPP, 2004; NDHS, 2018; NPC & FMH, 2019). But, the contraceptive trend in the figure above is against the policy target of the 2004 National Population Policy statement to increase modern contraceptive prevalence rate by at least 2 percentage points per year (20.4 percentage points) to a total of 32.2% nationally by 2015 (NPC & FMH, 2015).

The implication of the above trend is that with a population of over 200 million, Nigeria is no doubt the most populous country in Africa. High population without good family planning can be a huge burden on a country, it can increase the poverty rate with poor demographic dividends (Okeke *et al.*, 2014; WHO, 2015 & NURHI, 2019).

#### 4.5: Rates of Child Spacing Practice in Nigeria by Residence



Source: (NDHS, 2003; 2008; 2013 & 2018)

Figure 4.5: Rates of Child Spacing Practice in Nigeria According to Residence

Figure 4.5 shows that only 12% and 8% of women in the urban and rural areas of Nigeria had two years child spacing practice, this is against the government's target of 75% birth interval as stipulated in the 2004 National Population Policy (NPC & FMH, 2015). The figure above also indicates that the child spacing practice of two years is high in the urban areas compared to the rural settlements due to high level of education among urban women and high degree of conservatism and low level of education characterized by rural women (Field Survey, 2018 & NDHS, 2018). The implications of the trends in the figure above is that rural women spend much of their productive time taking care of children thereby giving up their chances to participate in the formal employment sector which could have earned them lifetime income compared to their counterparts in the urban areas.

#### 4.6: Rates of Child Spacing Practice in Nigeria According to Regions

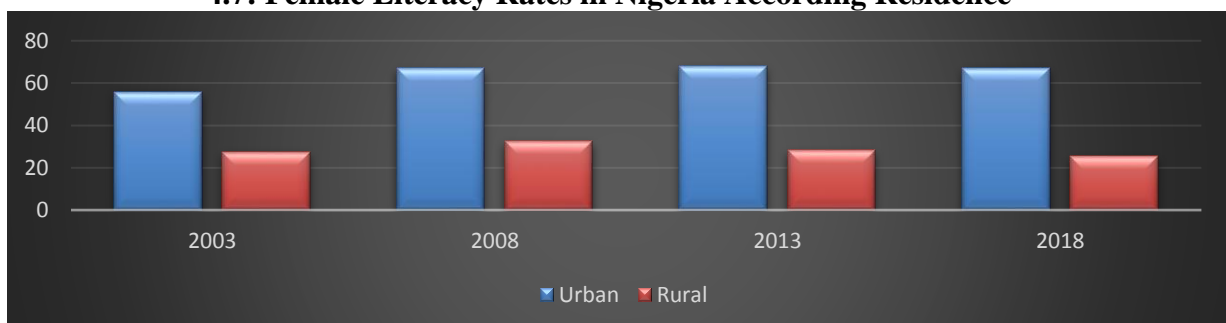


Source: (NDHS, 2003; 2008; 2013 & 2018)

Figure 4.6: Rates of Child Spacing Practice in Nigeria According to Regions

The World Health Organization (2016) recommended a minimum of two years child spacing practice of about 75% target for lactating mothers in the developing countries, but only less than 21% of women across the six geo-political zones in Nigeria practiced two years child spacing (NPP, 2004; NPC & FMH, 2015). In addition, the figure above depicts a somewhat declining trend in the number of mothers who complied with the two years child spacing practice recommendation of the World Health Organization in the north-central, north-east and north-west geo-political zones compared to the other three geo-political zones in Nigeria. This has a serious implications for women's health status and educational achievements as well as women's formal employment participation. This result corroborates the findings of Njiforti *et al.* (2016) and that of Adeyanju *et al.* (2017) who reported that only less than 15% of lactating mothers' keyed into the two years child spacing practice in Nigeria. They also added that apart from the health risk involved, a less than two years child spacing practice has a negative implication on women's welfare because it reduces women's chances to acquire educational capacities to participate in the formal employment sector.

#### 4.7: Female Literacy Rates in Nigeria According Residence

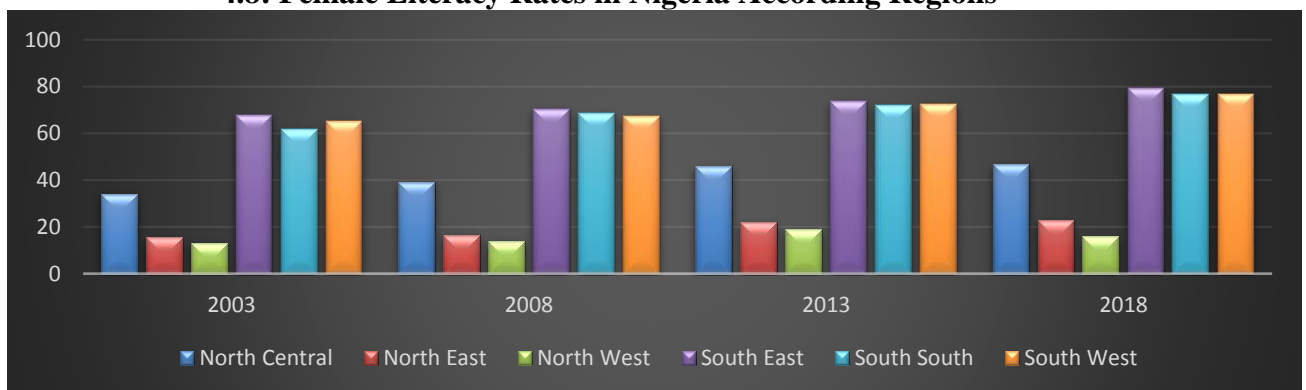


**Source: (NDHS, 2003; 2008; 2013 & 2018)**

Figure 4.7: Female Literacy Rates in Nigeria According to Residence

Figure 4.7 illustrates that women in the rural areas are less educated compared to their urban counterparts. This is because women with secondary or higher educational qualifications in rural and urban settlements of Nigeria stand at 15% and 50% as against government's target of 100% (Field Survey, 2018; NPP, 2004 & FMH, 2019). The statement above also corroborates the findings of Okeke (2018) and Adeoti *et al.* (2015) who reported that the years a girl child spends outside the school will invariably push her into early marriage and prevent her from acquiring the necessary educational capacities to participate in the formal employment as well as deprived her the opportunity to make a good family planning and reproductive health decisions.

#### 4.8: Female Literacy Rates in Nigeria According Regions

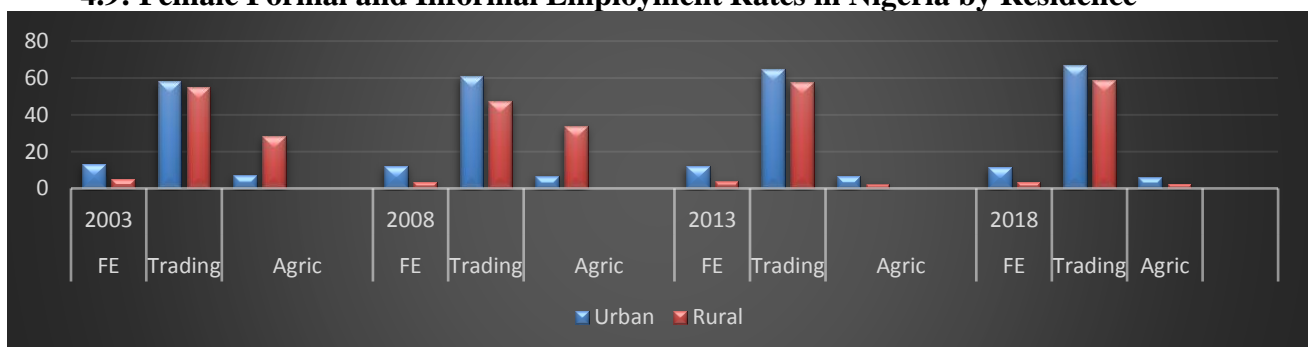


**Source: (NDHS, 2003; 2008; 2013 & 2018)**

Figure 4.8: Female Literacy Rates in Nigeria According to Region

Figure 4.8 indicates a declining trend in female literacy rate in the north-east, north-west and north-central geo-political zones. The literacy rate of women in the northeast, north-west and north-central geo-political zones stands at 40% while south-east, south-south and south-west women have the literacy rate of 70%. This is against the government's target of 100% literacy rate among women (NPP, 2004; NPC & FMH, 2015). Therefore, the 2004 National Population Policy target which aims to increase female literacy rate by 46.9 percentage points (100%) by 2015 has not been achieved. This is because the ratio of men to women literacy rate currently stand at 85% to 35% (NBS, 2018). This has a serious economic implications on women's welfare and formal employment outcomes and lifetime earnings both in the near and long terms.

#### 4.9: Female Formal and Informal Employment Rates in Nigeria by Residence



**Source: (NDHS, 2003; 2008; 2013 & 2018)** note: FE denotes the formal employment sector while trading and agric constitute the informal employment sector.

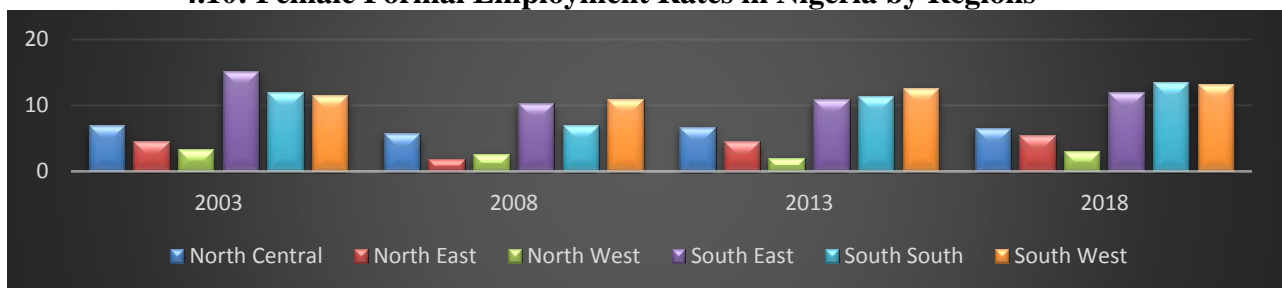
Figure 4.9: Female Formal & Informal Employment Rates in Nigeria by Residence

Figure 4.9 depicts the proportions of women in formal and informal employment sectors in Nigeria. The figure indicates that less than 10% and 5% of the urban and rural women were absorbed into the formal employment sector of Nigeria as against government's target of 100% for rural and urban women (NBS, 2018 & Field Survey, 2018). The figure above also shows a somewhat increase in the number of women who participated in the informal employment sector of Nigeria as compared to formal employment sector for the four periods under study. Meanwhile, formal employment participation in Nigeria is not favouring women due to their negative reproductive health outcomes, females lose a large proportion of their lifetime earnings by taking time out of the workplace to have children according to NBS (2018). The labour market participation is a very important source that offers explanation for earnings and income inequality between men and women in Nigeria. The figure 4.9 indicates that there is a consistent partitioning of women into predefined jobs. For example, many more women work in the service sector as compared to men. In addition, for numerous developing countries, there has been a growing tendency for more women to be engaged in the informal sector than men.

Though many women still find restrictions in attaining some managerial jobs and others who even have these jobs, they have to contend with maternity and reproductive health decisions and family trade-offs (NDHS, 2018 & FMH, 2019).

Therefore, by population, the potential female labour force in Nigeria is 25 per cent, though the actual figure ranges between 15 and 20 per cent in both the public and private sectors of the economy. At the higher administrative and managerial levels, the figure is even smaller. For example, of the 191, 329 federal civil servants in 2018, only 45,881 (24 %) were females (NBS, 2018 & WHO, 2018).

**4.10: Female Formal Employment Rates in Nigeria by Regions**



**Source: (NDHS, 2003; 2008; 2013 & 2018)**

Figure 4.10: Female Formal Employment Rates in Nigeria by Regions

The figure 4.10 illustrates that only 2%, 4% and 6% of women were absorbed into the formal employment sector in the northeast, northwest and north-central geo-political zones in Nigeria while between 10% and 15% of women from the south-east, south-south and south-west were in formal employment sector. This indicates that women are lagging behind in the formal employment sector of Nigeria. In addition, only a few women in Nigeria are engaged in top management cadre of the formal sector establishments (NBS, 2020 & CBN, 2019).

## ANALYSIS OF THE CROSS-SECTIONAL SURVEY

This section constitutes the second part of the analysis. It sets out to present the analyzed responses sourced from the survey conducted in Sabon-Gari and Giwa LGAs in order to reaffirm the information published in the National Demographic Health Survey reports for 2003, 2008 and 2013 respectively. This study used a cross-sectional survey of two local government areas, one urban and one rural to elicit information from the respondents in order to investigate whether there is a direct flow between reproductive health outcomes and women's labour force participation in Nigeria. A total of 280 questionnaires were administered to women of reproductive age in Sabon-Gari LGA. Out of these number, 257 were retrieved. In addition, a total of 114 questionnaires were also administered to women of child-bearing age in Giwa LGA and 113 were retrieved. Therefore, this section begins with the socio-demographic background analysis of the respondents in the study locations.

### Socio-Demographic Backgrounds of Respondents

**Table 4.1: Socio-economic Characteristics of Respondents by Residence**

Variables	Sabon-Gari LGA		Giwa LGA	
	Freq.	Percent	Freq.	Percent
<b>Religion Denomination</b>				
Islam	255	97.00	112	98.12
Christianity	2	3.00	3	1.88
<b>Ethnicity (Culture)</b>				
Hausa	257	93.00	107	90.69
Yoruba	2	2.00	6	5.31
Igbo	8	5.00	8	4.00
<b>Marital Status</b>				
Married	257	100	109	96.46
Divorced/Separated/ Widowed	6	4.23	4	3.54
<b>Marital Duration</b>				
0-4 years	51	19.84	17	15.04
5-9 years	80	31.13	28	24.78
10-14 years	49	19.07	34	30.09
15-19 years	14	5.45	11	9.73
20-24 years	9	3.5	11	9.73
25 years and above	48	18.68	12	10.62
Married more than once	6	2.33	5	2.04
<b>Age of Respondents</b>				
less than 18 years	28	10.89	5	4.42
18-34 years	161	62.65	92	81.42
35-49 years	68	26.46	16	14.16
<b>Educational Background (N=370)</b>				
Formal	122	25.47	16	7.16
Informal	135	79.53	97	92.84
<b>Kind of Formal Education (N=138)</b>				
Primary	32	26.23	4	35.81
Secondary	25	20.49	10	62.5
Tertiary	65	53.28	2	1.15
<b>Educational Qualification (N=138)</b>				
SSCE	26	21.31	7	83.75
OND	20	16.39	3	1.75
NCE	22	18.03	4	1.76

HND	9	7.38	6	4.17
B.Sc	16	13.11	8	3.12
Others	29	23.77	2	12.5
<b>Family Structure of Respondents</b>				
Polygamous Family Structure	63	75.51	60	83.10
Monogamous Family Structure	194	24.49	53	16.90

Source: (Field Survey, 2018)

Table 4.1 illustrates that 97% and 3% of the respondents in Sabon-Gari were practicing Islam and Christianity with majority being predominantly Muslims while 98.12% and 1.88% constitute the proportions of the respondents in Giwa Local Government Areas who were practicing Islam and Christianity.

Women in Sabon-Gari and Giwa LGAs are often refrained from going out, socializing, and working without their husband's explicit permission. Some are not even permitted to see their natal relatives after they marry neither do their husbands allow them to adopt family planning nor attend antenatal care during delivery or even go for delivery at hospital during labour (Mairo, 2007). Therefore, when married women cannot leave their homes, they rely on their daughters as the main contact with the outside world, including buying and selling at the market with these young girls who are supposed to be in school (Popoola, 2016 & Sufiyan, 2013). Further, marital status shows that 100% and 96.46% of the respondents in Sabon-Gari and Giwa Local Government Areas were married while 99.9% and 3.54% respondents Sabon-Gari and Giwa LGAs were Divorced/ Separated/ Widowed. In addition, in regards to the educational background of the respondents, 25.47% and 7.16% of the respondents in Sabon-Gari and Giwa LGAs had formal education while 79.53% and 92.84% of the respondents in Sabon-Gari LGA had informal education.

The family structure of the respondents also indicates that 75.51% of the respondents in Sabon-Gari had polygamous family structure while 83.10% of the respondents in Giwa LGA also had polygamous family structure. In addition, 24.49% of the respondents in Sabon-Gari had monogamous family structure while 16.90% of the respondents in Giwa LGA had monogamous family structure. Studies like Popoola (2016) and Adeoti et al. (2015) have established correlation between socio-economic backgrounds of households and women's participation in the formal employment sector of Nigeria.

**Table 4.2: Socio-economic Characteristics of Respondents by Residence Continued**

Variables	Sabon-Gari LGA		Giwa LGA	
	Freq.	Percent	Freq.	Percent
<b>Employment Status (N=370)</b>				
Employed	105	69.14	65	54.77
Not employed	85	30.86	113	45.23
<b>Kind of Employment (N=105)</b>				
Formal	75	20.43	12	4.23
Informal	30	78.57	113	95.77
<b>Kind of Formal Job (N=75)</b>				
Public service	72	30.00	15	2.56
Private service	3	70.00	22	97.44
<b>Forms of Formal Job (N=75)</b>				
Banking	7	45.33	5	1.02
Civil servant	32	20.67	15	1.04

Teaching	33	30.00	12	1.05
Other kind of formal job	3	4.00	13	96.89
<b>Kind of Informal Employment (N=75)</b>				
Trading	123	60	51	97.66
Farming	29	18	62	3.24
<b>Duration of Acquiring Job After Marriage (N=75)</b>				
Less than 1 year	20	2.67	13	1.56
2 years	8	1.67	10	1.45
3 years	13	2.33		1.50
4 years	9	40.00	12	2.89
5 years & above	25	53.33	16	92.6
<b>Family Income Level</b>				
Low income < 40,000	67	76.07	72	78.38
Medium income 40, 000 - 80,000	131	20.97	41	16.28
High income > 80,000	59	22.96	42	5.34

Source: (Field Survey, 2018)

Table 4.2 indicates that 69.14% and 54.77% of the respondents in Sabon-Gari and Giwa LGAs were employed while 30.86% and 45.23% of the respondents in Sabon-Gari and Giwa LGAs were not employed as at the time of conducting this survey. Also, 20.43% and 4.23% of the respondents in Sabon-Gari and Giwa LGAs were in formal employment while 78.57% and 95.77% were in the informal employment sector. Similarly, the durations of acquiring job after marriage by the respondents also indicates that 53.33% and 92.6% of the respondents in Sabon-Gari and Giwa LGAs got their formal employment jobs more than five years after marriage. Meanwhile, Joshi (2012) and Babatunde (2015) reported that marital status of women negatively correlate with the rate of women formal employment participation in a developing like Nigeria. Further, table 4.2 also shows the family income groups of the respondents in the study locations, the table indicates that 76.07% and 83.72% of the respondents in Sabon-Gari and Giwa LGAs fall in a low income group with family income of less N40, 000 while 20.97% and 16.28% of the respondents in Sabon-Gari and Giwa LGAs fall in a middle-income group with family income of between N40, 000-N80, 000. In addition, 22.96% of the respondents in Sabon-Gari LGA fall in a high-income group while 99.9% of the respondents in Giwa LGA fall in low within the income group.

**Table 4.3: Socio-economic characteristics of Respondents by Residence Continued**

Variables	Sabon-Gari		Giwa LGA	
	Freq.	Percent	Freq.	Percent
<b>Given Maternity Leave if Working in Public or Private Sector (N=72)</b>				
Yes	68	98	50	15
No	4	2.0	12	75
<b>Duration of Maternity Leave (N=72)</b>				
3 Months	66	91.67	45	73
More than 3 Months	6	8.33	17	12

**Payment of Salary During**



<b>Maternity Leave (Public Sector)</b>				
<b>(N=72)</b>				
Yes	69	99.83	10	14
No	3	1.17	62	86
<b>Payment of Salary During Maternity Leave (Private Sector)</b>				
Yes	1	10.33	12	15
No	2	89.67	60	85
<b>Not employed due to husbands restrictions (N=265)</b>				
Yes	201	66.67	200	98.00
No	64	33.33	65	2.00
<b>Halt trading &amp; farming activities after given birth (N=265)</b>				
Yes	205	95.00	205	95
No	60.0	5.00	60	5.0
<b>Level of Education, Religion &amp; Cultural Factors as Reasons for not Employed by Respondents (N=265)</b>				
Yes	200	75.27	99	97.33
No	65	4.73	1.0	2.67

Source: (Field Survey, 2018)

Table 4.3 shows that 98% and 15% of the respondents in Sabon-Gari and Giwa LGAs who were working in the public and private sectors establishments were given maternity leave while 91.67% and 8.33% of the respondents in Sabon-Gari who work in public and private enterprises were given maternity leave of three and more than three months. Meanwhile, 73% and 12% of the respondents working in public and private sectors in Giwa LGA were also given maternity leave of three and more than three months. Table 4.3 further indicates that 99.83% of the respondents working in the public sector establishments in Sabon-Gari LGA were paid full salaries during maternity leave while 10.33% of the respondents working in the private sector establishments in Sabon-Gari LGA were paid half salaries during maternity leave. In addition, 14% of the respondents working in the public sector establishments in Giwa LGA establishment were paid full salaries during maternity leave while 15% of the respondents in Giwa LGA working in the private sector establishments were paid half salaries during maternity leave. Analysis from the table 4.3 shows that women's reproductive health roles in the households is negatively affecting their lifetime earnings especially for women working in the private sector establishments.

**Table 4.4: Cross Tabulation of Socio-Economic Backgrounds and Number of Living Children of the Respondents**

Variables	< 4 Children		> 4 Children		Statistics	P-Value
	Freq.	Percent	Freq.	Percent		
<b>Religion</b>						
Islam	140	95.89	220	98.21	2.8152	**0.000
Christianity	6	4.11	4	1.79		
<b>Residence</b>						
Urban	120	82.19	137	38.16		
Rural	26	17.81	87	61.84	18.4295	**0.000

**Ethnicity (Culture)**

Hausa	130	89.04	178	79.46		
Yoruba	8	5.48	29	12.95	7.5551	**0.000
Igbo	3	2.05	3	1.34		
Others	5	3.42	14	6.25		

**Marital status**

Married	146	100.00	220	98.21	2.6356	0.104
Divorced/Separated/Widow	0	0.00	4	1.79		

**Marital Duration**

0-4 years	60	41.10	8	3.57		
5-9 years	54	36.99	54	24.11		
10-14 years	24	16.44	59	26.34		
15-19 years	2	1.37	23	10.27	125.1489	**0.000
20-24 years	1	0.68	19	8.48		
25 years and above	5	3.42	55	24.55		
Married more than once	0	0.00	6	2.68		

**Age at Marriage**

Less than 18 years	17	78.64	16	61.14		
18-34 years	115	11.77	138	7.61	24.0815	**0.000
35-49 years	14	9.59	70	31.25		

**Educational Backgrounds  
(N=370)**

Formal	81	55.48	57	25.45	34.0905	**0.000
Informal	65	44.52	167	74.55		

**Kind of formal Education  
(N=138)**

Primary	21	35.93	15	26.32		
Secondary	13	6.05	22	38.60		
Tertiary	47	58.02	20	35.09		

**Educational Qualification  
(N=138)**

SSCE	14	17.28	19	33.33		
OND	10	12.35	13	22.81		
NCE	16	19.75	10	17.54	24.1214	**0.000
HND	9	11.11	0	0.00		
B.Sc.	16	19.75	0	0.00		
Others	16	19.75	15	26.32		

**Family Structure**

Polygamous Family	63	56.15	60	26.79	10.6667	**0.000
Monogamous Family	83	43.85	164	73.21		

**Employment Status (N=370)**

Employed	56	38.36	49	21.88	11.8125	**0.000
Not employed	90	61.64	175	78.13		

**Maternal Age at First Birth**

Less than 18 years	72	49.32	183	81.70		
18-34 years	72	49.32	41	18.30	44.3498	**0.000
35-49 years	2	1.37	0	0.00		

**Family Income Level**

Low income < 40,000	52	35.62	87	76.84		
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Medium income 40,000-80,000	67	45.89	105	8.88	1.2441	**0.000
High income > 80,000	27	18.49	32	14.29		

**Source: (Field Survey, 2018) (Note: \*\* denotes the significance of variables at 0.5% level)**

Table 4.4 depicts the cross-tabulation of the socio-economic backgrounds and number of living children of the respondents. The cross-tabulation illustrates that there is a significant relationship between the number of living children and the socio-cultural backgrounds of the respondents. For instance, 98% of the respondents practicing Islam had more than four children while 4.11% of the respondents practicing Christianity had less than four children. The table 4.4 also indicates a significant relationship between residence and number of living children of the respondents. For example, 61.84% of the respondents in Giwa LGA had more than four children while 82.19% of the respondents in Sabon-Gari LGA had less than four children. The table above also illustrates a significant relationship between ethnicity and number of living children. For instance, 89.04% of the respondents from Hausa ethnicity had more than four children while 5.48% and 2.05% of the respondents from Yoruba and Igbo ethnicities had less than four children.

The table also indicates high relationship between age at marriage and number of living children. For instance, 78.64% of the respondents who married at less than 18 years had more than four children while 11.77% of the respondents who married at 18 years and above had less than four children. The table further indicates a significant relationship between educational background of the respondents and number of living children, that is, 58.02% of the respondents with tertiary educational qualifications had between one to four children while 35.93% of the respondents with primary school educational qualifications had between 5-10 children and above. The table also shows significant relationship between family structure and number of living children of the respondents. For instance, 56.15% of the respondents from polygamous family had more than four children while 26.79% of the respondents from monogamous households had less than four children. Further, the table also depicts an inverse relationship between family income quintile and family size of the respondents. For example, 76.84% of the respondent in low income quintile had more than four children while 8.88% of the respondents in high income quintile had less than four children. This result corroborates the studies of Adeoti *et al.* (2015) and Adeyanju *et al.* (2017) who reported that households in low income quintile in Nigeria tend to have high number of living children compared to households in high or middle income group.

**Table 4.5: Reproductive Characteristics of Respondents by Residence in Last Five Years**

Variables	Sabon-Gari LGA		Giwa LGA	
	Freq.	Percent	Freq.	Percent
<b>Total Number of Living Children (TFR)</b>				
0	7	2.72	0	*0
1	14	5.45	6	5.31
2	32	12.45	2	1.77
3	42	16.34	9	7.96
4	25	9.73	9	7.96
5	24	9.34	17	15.04
6	7	2.72	6	5.31
7	12	4.67	12	10.62

8	19	7.39	20	17.7
9	34	13.23	14	12.39
10 and above	41	15.95	18	15.93
<b>Interest in having more Children</b>				
Yes	210	81.71	102	90.27
No	47	18.29	11	9.73
<b>Age at Marriage</b>				
Less than 18 years	172	79.93	108	95.58
18-34 years	85	20.07	5	4.41
35-49 years	2	0.89	0	*0.00
<b>Maternal Age at First Birth</b>				
Less than 18 years	149	57.98	106	93.81
18-34 years	106	30.25	7	6.19
35-49 years	2	0.78	0	*0.00
<b>Decision Making on Number of Children &amp; Child Spacing</b>				
<b>Decision made alone by wife (n=257)</b>				
Yes	5	9.73	11	1.95
No	252	98.05	102	90.27
<b>Decision made alone by Husband (n=257)</b>				
Yes	154	69.92	80	80.80
No	103	30.08	33	19.20
<b>Joint decision by both couples (n=257)</b>				
Yes	57	22.18	12	10.62
No	200	77.82	101	89.38

**Source: (Field Survey, 2018) (Note: Majority of the respondents are pregnant at the time of this survey)**

Table 4.5 above indicates the respondents' number of living children, age at marriage, and maternal age at birth and so on in the study locations which form the cardinal pillars in this analysis because of its direct impact on women's participation in the formal employment sector. Table above also shows that 43.97% of the respondents in Sabon-Gari LGA have between 1-4 children while 76.99% of the respondents in Giwa LGA have between 5-10 children and above per woman. Also, 79.93% and 95.58% of the respondents in Sabon-Gari and Giwa LGAs married at less than 18 years of age. The table also indicates that only 20.07% and 4.41% of the respondents in Sabon-Gari and Giwa LGAs married between 18-34 years. In agreement with the above statement, WHO and UNICEF (2018) report that Nigeria has one of the highest child marriage prevalence rates in the world. On the average, about three out of five girls are married out before they are 18 years while child marriage is common in Nigeria, prevalence is highest in the North-West region, Kaduna State in particular (76 percent) followed by North-East (68 percent), North-Central (35 percent), South-South (18 percent), South-West (17 percent), and South-East (10 percent) (NDHS, 2013; NPC & FMH, 2015).

**Table 4.6: Reproductive Health Outcomes by Respondents in Sabon-Gari & Giwa LGAs**

Variables	Sabon-Gari LGA (N=257)		Giwa LGA (N=113)	
	Freq.	Percent	Freq.	Percent

<b>Use of modern family planning (CPR)</b>				
<b>(N=370)</b>				
Yes	52	5.23	6	1.31
No	205	94.77	107	98.69
<b>Effectiveness of the use of any modern family planning methods (N=58)</b>				
Effective	24	66.67	6	46.15
Very effective	25	33.33	2	33.33
Not effective	10	5.77	10	5.77
<b>Husbands and socio-cultural factors as reasons for not using contraceptives (N=312)</b>				
Yes	189	92.20	106	99.07
No	16	7.80	1	0.93
<b>Birth Interval Between Children (CHSP) (N=370)</b>				
Less than 2 years	159	71.87	105	92.92
2 years	53	10.62	8	7.08
3 years	35	13.62	*0.00	*0.00
4 years	8	3.11	*0.00	*0.00
5 years and above	2	0.78	*0.00	*0.00

**Source: (Field Survey, 2018) (The Asterisk (\*) denotes that respondents do not possess a particular variable)**

Table 4.6 shows that only 5.23% respondents in urban area (Sabon-Gari LGA) adopted modern family planning while 1.31% respondents in the rural area (Giwa LGA) utilized modern family planning. By implications, women in urban areas practice modern family planning more than their counterparts in the rural areas. Also, only 10.62% of the respondents in Sabon-Gari LGA practiced two years child spacing while 7.08% of the respondents in Giwa LGA practiced two years child spacing. There is somewhat decline in the number of women who practiced two years child spacing in the study locations. This has serious implications for women's educational achievements and formal employment participation.

### Estimated Logistic Regression Model

Table 4.7 below shows the logistic regression results which correlates the impact of reproductive health outcomes on female labour force participation by the use of the cross sectional survey data from Sabon Gari and Giwa Local Government Areas of Kaduna State Nigeria:

Number of obs	370				
LR chi <sup>2</sup> (7)	170.21				
Prob > chi <sup>2</sup>	0.0045				
Pseudo R <sup>2</sup>	0.386				
Log likelihood	-135.598				
FLFP	Coefficients	Std. Err.	Z	P>z	[95% Conf. Interval]
EDU	-0.92	0.34	1.32	0.22ns	-1.58 2.94

CPR	-3.09	0.41	0.18	0.18ns	-0.29	1.88
RLGN	-4.33	1.10	2.50	0.01**	-1.81	2.48
CLTR	-5.09	0.23	2.40	0.01**	-0.54	-0.36
CHSP < 2yrs	-4.15	0.20	1.10	0.20ns	-0.77	1.53
AM < 18 yrs	-3.31	0.36	0.37	0.71ns	-0.57	0.84
TFR > 4	-4.76	0.34	-0.06	0.95ns	-0.70	0.65
FAY	2.17	0.23	0.73	0.46ns	-0.28	0.62
<b>_cons</b>	<b>-4.68</b>	<b>1.53</b>	<b>-1.05</b>	<b>0.56ns</b>	<b>-7.69</b>	<b>-1.68</b>
	<b>Odds</b>					
	<b>Ratios</b>					
EDU	1.75	3.00	1.32	0.22ns	4.47	17.14
CPR	18.97	1.21	0.18	0.18ns	1.34	6.59
RLGN	16.40	1.53	2.30	0.01**	0.16	11.95
CLTR	20.91	0.21	3.40	0.01**	0.58	1.43
CHSP < 2yrs	16.16	0.62	1.10	0.20ns	2.16	4.64
AM < 18 yrs	9.14	0.41	0.37	0.71ns	0.56	2.31
TFR > 4	16.98	0.34	-0.06	0.95ns	0.50	1.92
FAY	4.18	0.27	0.73	0.46ns	0.75	1.85
<b>_cons</b>	<b>8.43</b>	<b>0.01</b>	<b>-1.05</b>	<b>0.56ns</b>	<b>0.90</b>	<b>0.19</b>

Note: Dependent Variable: FLFP = Female Labour Force Participation; Independent Variables: TFR = Total Fertility Rate, EDU = Education, RLGN = Religion, CHSP = Child Spacing Practice, AM = Age at Marriage and CLTR = Culture, CPR = Contraceptive Prevalence Rate. Coefficients with \*\* denote that variables are significant at 5% while coefficients with ns connotes that variables are not significant at 5%.

Source: (Field Survey, 2018).

From the table above, the coefficients of the variables are all negative, and by implication the odd ratios indicate that reproductive health variables such as child spacing practice, contraceptive prevalence rate and fertility rate are less likely to influence women's labour force participation in the study locations. This result actually corroborates the findings of Silverman *et al.* (2012) and Smith *et al.* (2013) who reported that there is a consistent partitioning of women into predefined jobs due to women's negative reproductive health behaviours. For example, many more women work in the service sector as compared to men. Studies have shown that for numerous developing countries, there has been a growing tendency for more women to be engaged in the informal sector than men due to conservatism and women's negative reproductive behaviours characterized by high birth parity, poor child spacing practice and low educational achievement (NBS, 2018 & WHO, 2017). For instance, the educational variable of women in the study locations is 1.7 times less likely to influence women's labour force participation. This can be attributed to the low level of women's formal education in the study areas. For instance, only about 20% of the sampled women in Sabon Gari had formal education and only 8% in Giwa had formal education. Some of the reasons for the low level of formal education can be attributed to early marriages as more than 70% of women in the study areas were married before reaching the age of 18 years. However, contraceptive prevalence rate (CPR) also has a negative and insignificant coefficient with the value -3.09. This means that women who do not use contraceptive are 18.97 times less likely to participate in formal employment compared to women who practice modern family planning. In agreement with the above statement cross-sectional survey reports from the study locations reveals that only 6.45% of the respondents adopted modern contraceptives. Religion (RLGN) also appears to be one of the significant determinants of female labour force

participation as portrayed by our findings, though it suggests a negative relationship based on the study apriori expectation -4.33. The result shows that a unit increase in a woman practicing Islam or Christianity reduces the probability that such a woman would participate in the formal employment sector by 16.40. Cross-sectional survey report from the study locations also reveals that Islam is the predominant religion in Sabon-Gari and Giwa LGAs about 94%. This also implies that religion with more Muslims would have a lower probability for women to participate in the formal employment, this is expected because majority of the men practicing Islam especially in the study locations do not give their women the freedom to participate in paid formal employment as reveal by the participants of the Focus Group Discussions conducted in the study locations.

Culture (CLTR) also plays a significant role in determining women labour force participation as shown in our findings, the coefficient appears to be negative with the value of -5.09. This connotes that a unit increase in a woman being Hausa reduces the odds or probability of such woman participating in labour force by 20.19. Therefore, cross-sectional survey reports from the study locations reveals that Hausa is the predominant culture about 95%. Child spacing practice (CHSP) also has a negative coefficient with the value of -4.15 which implies that women who have less than two years child spacing are 16.16 times less likely to participate in labour force compared to women who have more than two years child spacing in the study locations. Cross-sectional survey reports from the study locations also reveals that 92% of respondents had birth interval of less than two years, this reduces the respondents' chances to participate in paid formal employment as most employers of labour in the private establishments may not employ nursing mothers and some may not give pregnant and nursing women maternity leave or pay nursing mothers full salaries during maternity leave. Thus, less than two years child spacing practice can be detrimental to women's participation in the formal employment sector (WHO, 2016; Silverman *et al.*, 2012 & Smith *et al.*, 2013).

Age at marriage (AM) also appears to be negative with the value of -3.31, this connotes that women who married at less than 18 years are 9.14 times less likely to take up a paid formal employment in the labour market compared to women who married at more than 18 years. In agreement with this statement, cross-sectional survey reports from the study locations also reveals that 95% of the respondents in Sabon-Gari and Giwa LGAs married at less than 18 years of age. This is also an indication that government policy of 18 years age of marriage for a girl child is not effective in curbing child marriage in the study locations. Studies like Sufiyan *et al.* (2013), Njiforti *et al.* (2016) and NURHI (2018) have also reported that too early a marriage (less than 18 years of age) for some women may block their chances of acquiring skills and capacity development to engage in gainful formal or informal employment.

Household size (fertility rate) also appears to be negative with value of -4.76 meaning that a unit increase in household size or fertility rate reduces women's labour force participation with the log-odds of -4.76, or the odds of 16.98. In other words, women with more than four children are 16.98 times less likely to participate in formal employment compared to women with four or less than four children. This indicates a trade-off between child-bearing and women's labour force participation. In addition, cross-sectional survey report from the study locations also reveals that 81% of the respondents had between 7 to 10 children and above per woman, this is against government's policy of four children per woman. Family income (FAY) coefficient also appears to be positive but not significant with the value of 2.17. This means that women in the household of low income below the poverty line are 4.18 times more likely to pick up a paid employment compared to women in the household with high income above the poverty line. The insignificant coefficient of the family income might be attributed to the fact that most

of these women are not allowed by their spouses to participate in the formal employment sector and as a result most of the women result to practice child labour such that even their very young children participate in paid jobs in order to generate income to support the family. However, the constant in the estimated model appears to be negative and insignificant at p-value of 0.56 with the log-odds of -4.68 and odds ratio of 8.43 which implies that the insignificant determinants of female labour force participation in the study locations are contraceptive prevalence rate, child spacing practice, age at marriage, fertility rate and family income while the significant determinants of female labour force participation in the study locations are religion and culture.

## 5. SUMMARY AND CONCLUSION

Based on the selected reproductive health variables such as fertility rate, modern contraceptive prevalence rate and child spacing practice extracted from the National Demographic Health Survey reports for 2003, 2008, 2013 and 2018 periods and the cross-sectional survey conducted in Sabon-Gari and Giwa LGAs of Kaduna State. It was observed that these reproductive health indices were negative in the rural areas as compared to the urban areas even though skill acquisitions and capacity development programmes were extended to the rural areas, but conservatism such as religion, culture and traditions may not allow most of these rural women to participate in income generating formal employment as compared to women in the urban areas. Therefore, this development has accounted for the reasons for low women's participation in the formal employment sector in the rural areas of Nigeria as compared to urban areas. Further, from the cross-sectional survey conducted in Sabon Gari and Giwa LGAs of Kaduna State, this study also observed that the poor track records and performance of the reproductive health variables in the Giwa LGA does not give the Giwa LGA women the ample opportunity to build the required educational capacities that can enable them participate in the formal employment in order to generate income to cater for their well-being as compared to women in the Sabon Gari LGA. However, the analysis from the cross-sectional survey actually corroborates the analysis of the information extracted from the National Demographic Health Survey reports.

## 6. RECOMMENDATIONS

Following the result of the analysis of the impact of reproductive health outcomes on women's labour force participation in Nigeria, this study recommends that a gender-friendly policy that addresses the constraints facing women's work and their full participation in the labour market should be advocated by the government, all stakeholders in the private sectors and non-governmental organizations.

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## APPENDIX

Table 1: Reproductive health outcomes in Nigeria by geo-political zones

GEO-POLITICAL ZONES IN NIGERIA	FERTILITY RATES				CONTRACEPTIVE PREVALENCE RATES (%)			
	2003	2008	2013	2018	2003	2008	2013	2018
NORTH-CENTRAL	5.7	5.5	5.5	5.8	13.3	13	12.4	12.6
NORTH-EAST	7	7.2	6.3	7.5	4.2	4	2.7	2.2
NORTH-WEST	6.7	7.3	6.7	6.9	4.9	2.8	3.6	3.8
SOUTH-EAST	4.5	4.8	4.7	4.6	22.5	23.4	11	12.6
SOUTH-SOUTH	4.6	4.7	4.5	4.8	25.4	26.2	16.4	17.2
SOUTH-WEST	4.5	4.5	4.6	5.2	32.7	31.7	24.9	25.2

Source: (NDHS, 2003, 2008, 2013 & 2018)

Table 2: Reproductive health outcomes in Nigeria by Residence

GEO-POLITICAL ZONES IN NIGERIA (RESIDENCE)	FERTILITY RATE				CONTRACEPTIVE PREVALENCE RATES			
	2003	2008	2013	2018	2003	2008	2013	2018
Residence	2003	2008	2013	2018	2003	2008	2013	2018
Urban	4.9	4.7	4.7	4.8	20.2	25.9	16.9	17
Rural	6.1	6.3	6.2	7.5	9.2	9.4	5.7	6.2

Source: (NDHS, 2003, 2008, 2013 & 2018)

The global benchmark for fertility and contraceptive prevalence rates for a developing country like Nigeria stand at 4 children per woman and 64.34% contraceptive usage per woman of child-bearing age for developing countries (World Bank, 2015 & UNICEF, 2012). But the result in the table above contradicts these global target across the six geo-political zones in Nigeria.