

ANALYSIS OF THE IMPACT OF REPRODUCTIVE HEALTH OUTCOME ON WOMEN LABOUR FORCE PARTICIPATION AND EARNINGS IN NIGERIA

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ABSTRACT

This study undertakes an empirical economic analysis of women reproductive health and labour force participation in Nigeria. Specifically, the study analyzed the impact of reproductive health outcome on women 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 national representative quantitative data from the National Demographic Health Survey reports for 2003, 2008 and 2013 respectively. 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 group discussions and key-informants interview 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. The study found that women's reproductive health outcomes such as total fertility rate, child spacing and contraceptive prevalence rate have negatively impacted women's labour force participation and earnings in the study areas. Hence, the negative reproductive health outcome has not given women the ample opportunity to develop the necessary capacities to engage in labour force participation. From the cross sectional survey, it was found that only 6.54% of the respondents practice family planning which is below the national benchmark of 64.34%. About 92.92% of the respondents had birth interval of less than two years which is against the government's policy of two years child spacing. About 95.58% of the respondents married at less than 18 years which is against the government policy of 18 years age of marriage for women. Meanwhile, about 85% of the respondents have between 7 to 10 children and above per woman which is against the government's policy of 4 children per woman. In addition, only 25.47% of the respondents have formal education while 30.86% are in active formal employment which is 100% against government's policy of women literacy and formal employment rates in Nigeria. Therefore, the study concludes that reproductive health outcome does not have significant impact on women 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 family planning and child spacing, in order to regulate the reproductive health behaviour's of women so as to ensure their labour force participation in order to increase their lifetime earnings.

Keywords: *reproductive health outcome, women labour force participation and earnings, logistic regression model.*

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

1. Introduction

Poor reproductive health outcome has long been blamed for being one of the main causes of low women economic participation and capacity development in developing country like Nigeria (Funnel & Rogers, 2010). In particular, it has been reported that the ratio of men to women employment in 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 (NBS, 2018 & 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). In addition, underutilization of female labour has obvious economic implications for welfare, growth and inter-generational transmission of poverty (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), total fertility rate of between 5-10 children per woman, low child spacing practice, contraceptive prevalence rate of less than 9% and maternal mortality rate of 14% (NDHS, 2013; 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 a specific target to increase rate of women's economic participation, women's universal access to reproductive healthcare services and to end poverty by 2030 among others (WHO, 2016; NURHI, 2018; Ademiluyi & Arowolo, 2009; Tariq et al., 2014; Patton, 2015; Israel, 2009).

However, a general observation of the reproductive health variables from 2003 across the six geo-political zones in Nigeria has 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 total 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 rate 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; ICPD, 1994; NPP, 1988 & 2004; World Bank, 2015; UNICEF, 2012; Peng & Nicholas, 2003 & Njiforti et al., 2016).

Consequently, it is observed that in the six geo-political zones across Nigeria, the total fertility and contraceptive prevalence rates are not in line with the global benchmarks for a developing country like Nigeria. For example, between 2003, 2008 and 2013, the North East had a total fertility rate of 7; 7.3 and 6.3 per woman with contraceptive prevalence rate of 4.2%; 4% and 2% while North Central had total fertility rate of 5.7; 5.5 and 5.7 per woman with contraceptive prevalence rate of 13.3%; 13% and 12.4% while the North West had the total fertility rate of 6.7; 7.3 and 6.7 per woman with contraceptive prevalence rate of 4%; 2.8% and 3.6% whereas total fertility rate for the South West geo-political zone varied between 4.1; 4.5 and 4.6 per woman with contraceptive prevalence rate of 32, % 31.7% and 24.9%. The South-East had total fertility rate of 4.6, 4.7, 4.5; per woman with contraceptive of 22.5%, 23.4%, 11% and the South-South had total fertility rate of 4.6, 4.7, 4.3; per woman with contraceptive prevalence rate of 25.4%, 26.2%, 16.4% (NDHS, 2003; 2008; 2013; NPC, 2015).

Further, high fertility and low contraceptive prevalence rates are also observed both in urban and rural areas of these geo-political zones across the country, for instance the current total fertility and contraceptive prevalence rates for urban and rural areas for 2003, 2008 and 2013 are 4.9, 6.1; 4.7, 6.2; 4.7, 6.2 per woman 20.2%; 9.4%; 25.9%, 9.4%; 16.9%; 5.7% (NDHS, 2003; 2008; 2013; NPC, 2015). 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 outcome on women 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 (USAID, 2014 & Kreyenfeld & Anderson, 2014). In developing countries like Nigeria, the likelihood of women dying from pregnancy related causes is nearly 1 in 50 (NDHS, 2013). 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 Labour Force Participation

According to International Labour Organization (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 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, Funnell 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. As expected *Apriori*, 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.

The Mincerian human capital model estimated 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 the empirical work, in this study's view, is the fact that all the 48 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 disaggregation by, for instance, level of economic and social development might possibly have shown different results for developing countries (like Mali, Rwanda, etc) and developed ones (like France, Britain, Sweden, etc).

However, in this present study, an attempt is made to analyze the impact of reproductive health outcomes on women labour force participation in Nigeria unlike the previous studies which examined the correlation between household heads education, family income and women labour force participation. This is further premised on the thesis that primarily, in the third world 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 is extremely low due to women's negative reproductive health situations characterized by early marriages, high parity birth, low birth spacing practice and high maternal mortality rate.

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 and 2013 to study the research question across the entire country. It should be noted that as at the time of conducting this study, the 2018 National Demographic Health Survey reports publications was still being awaited.

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 and 2013 and field survey data obtained through questionnaire, focus group discussion (FGD) and key-informants interview 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 respectively. 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 process 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 both 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 between 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 total 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 outcome 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 investigate the impact of reproductive health outcome on women's labour force participation. This model was estimated using the micro cross-sectional survey data obtained through questionnaire from the field. The qualitative response logistic regression model 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 π 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 (π) 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, 2018).

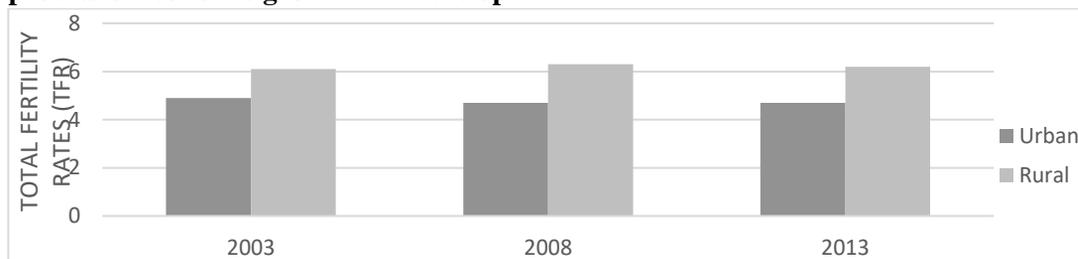
4. Analysis of Results and Discussions of Findings

The analyses in this section 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 and 2013 for the periods of five years interval for the six geo-political zones in Nigeria while the second analysis used a cross-sectional survey of two Local Government Areas (LGAs) in

Kaduna State, one urban and one rural in order to re-affirm the reproductive health information published in the National Demographic Health Survey. Therefore, as at the time of conducting this study, the 2018 National Demographic Survey reports publications was still being awaited.

Analysis of Women Reproductive Health and Labour Force Participation in Nigeria

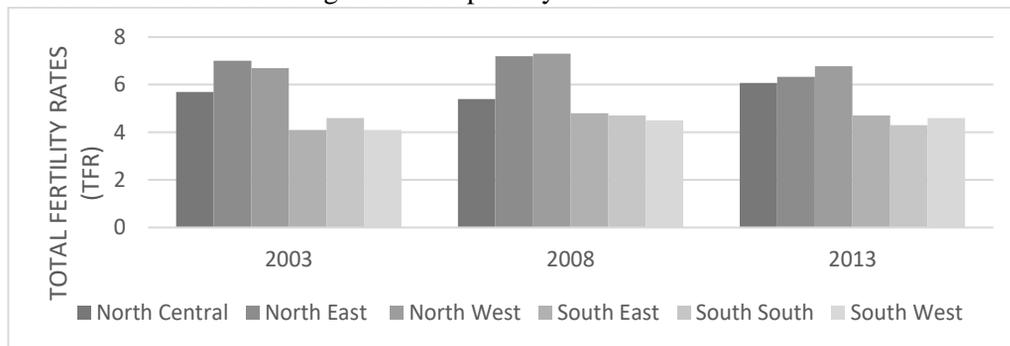
This section analyzes the various reproductive health indices such as total fertility rate, contraceptive prevalence rate, women literacy rate, women labour force participation, etc as published in the National Demographic Health Survey reports for 2003, 2008 and 2013 periods respectively in Nigeria. 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 and development.



Source: (NDHS, 2003; 2008; 2013)

Figure 1: Total Fertility Rates (TFR) in Nigeria by Residence

Figure 1 above shows the total fertility rate for 2003, 2008 and 2013 categorized into urban and rural areas. From the figure, the fertility rate was higher in the rural areas, than in urban areas for all the years. Further, the figure shows that there is an increasing trend in fertility rate for both rural and urban areas for all the years. The study conducted by WHO (2018) reports that the reason for higher fertility rate in the rural areas can be attributed to low level of education, culture and traditions, religious factor and early marriages. This finding is in line with the studies conducted by Njiforti et al. (2016) and Mantel et al. (2014). 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 capacity development, labour force participation and lifetime earnings and places heavy family burden on households living below the poverty line.

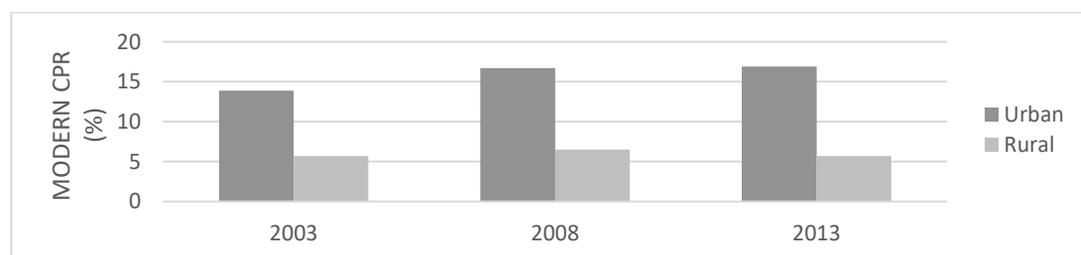


Source: (NDHS, 2003; 2008; 2013)

Figure 2: Total Fertility Rates (TFR) in Nigeria According to Regions

The figure 2 above shows that total fertility rate across the six geo-political zones especially the northwest, north central and north-east are higher than the other regions with north central, northwest and northeast having a total fertility rate of 6 to 7 children and above per woman while the south-

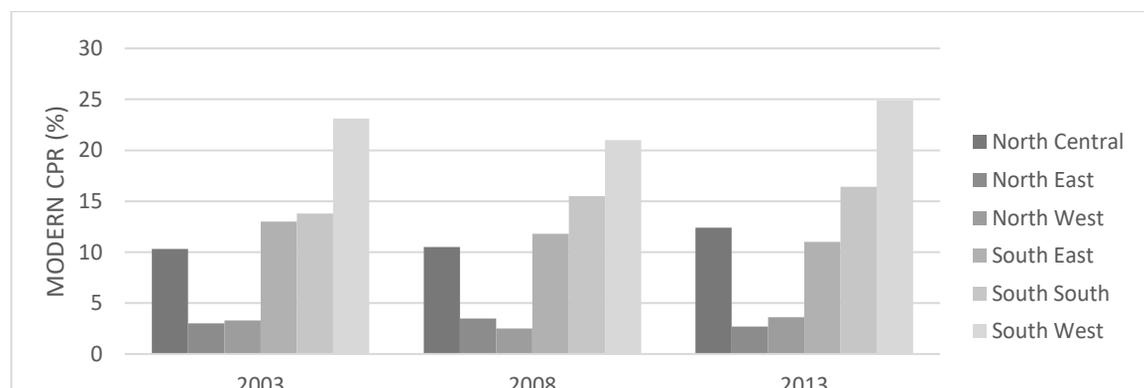
south, southeast and southwest have total fertility rate of between 4 to 5 children per woman. Meanwhile, on the average, the current national total fertility rate stands at 5.5 children per woman and the population growth rate stands at 3.2% (NDHS, 2013 & NPC & FMH, 2015). This is against the government target of total 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 our results from the field survey conducted in 2018 where majority of our respondents had above 6 children each. The findings of Joshi (2012) and Odu et al. (2015) also support this result.



Source: (NDHS, 2003; 2008; 2013)

Figure 3: Modern Contraceptive Prevalence Rates in Nigeria According to Residence

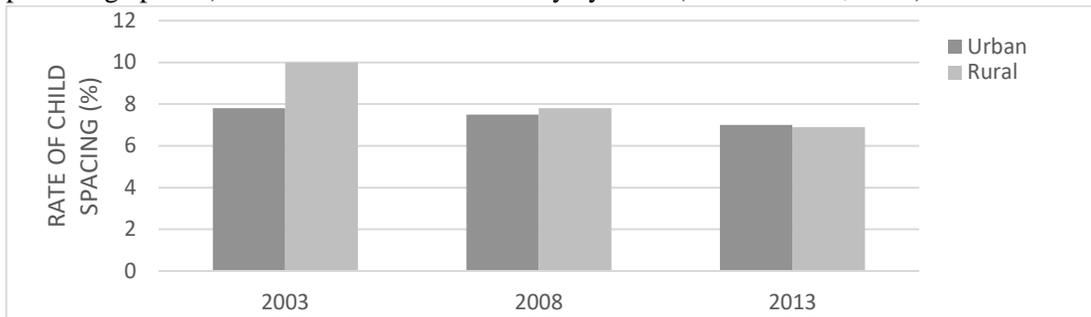
Figure 3 above illustrates that the rate of modern contraceptive use in urban areas across the six geopolitical zones is slightly high as compared to the rural settlements due to high level of educational backgrounds embedded in the urban dwellers and high degree of conservatism such as religion, culture and traditions characterized by rural women which prevent them from practicing modern family planning methods. This analysis is in line with the field survey reports carried out under this study in 2018 where majority of the urban women practice high contraceptive usage as compared to their rural counterparts. Although, the current contraceptive prevalence rate of less than 16% and 5% in both the urban and rural areas as shown in the graph above is far below the 95% benchmark for developing countries like Nigeria (NPP, 2004; NPC & FMH, 2015). The implication of the above situation is that, the urban women with high contraceptive practice will have the leverage to engage in capacity development in order to participate in economic activities as compared to their rural counterparts with low contraceptive compliance rate (Odu et al. 2015).



Source: (NDHS, 2003; 2008; 2013)

Figure 4: Modern Contraceptive Prevalence Rates in Nigeria According to Regions

Figure 4 above shows the modern contraceptive prevalence rates across the six geo-political zones in Nigeria. The movement of the trend depicts that rate of modern contraceptive use in the north central, northeast and northwest geo-political zones is extremely low compared to southeast, southsouth and southwest geo-political zones. According to WHO (2018), this trend is due to the high level of literacy rate among women in the southern, western and eastern part of Nigeria as compared to the women in the northern part. Nationally, on the average, modern contraceptive prevalence rates in Nigeria currently stands at 9.8% (NPP, 2004; NDHS, 2013; NPC & FMH, 2015). But, the figure above is against the policy target of the 2004 National Population Policy statement to increase modern contraceptive prevalence rates by at least 2 percentage points per year (20.4 percentage points) to a total of 32.2% nationally by 2015 (NPC & FMH, 2015).

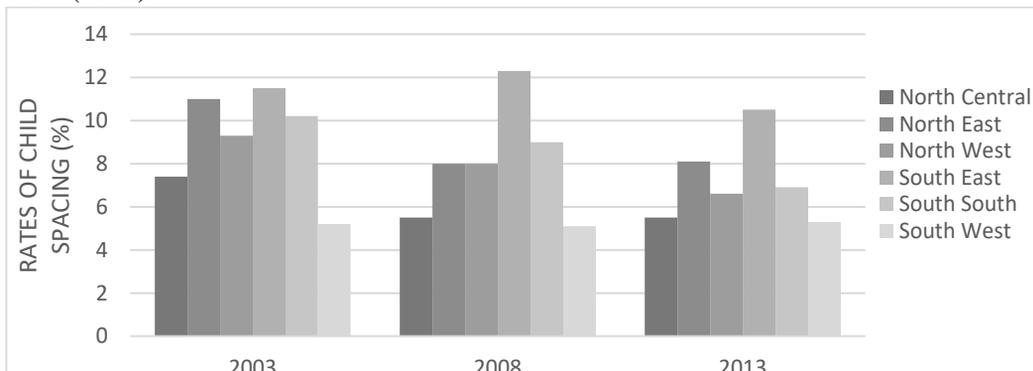


Source: (NDHS, 2003; 2008; 2013)

Figure 5: Rates of Child Spacing in Nigeria According to Residence

The figure 5 above depicts about 7% women who had less than two years child spacing in Nigeria by residence which is against government target of 75% (NPC & FMH, 2015).

The figure above also indicates that child spacing practice of less than two years is high in the rural settlements compared to urban settlements. This could be due to high level of education among urban women and high degree of conservatism characterized by rural women (Field Survey, 2018 & NDHS, 2013). This result also tallies with the studies conducted by Adeyanju et al. (2017) and Adeoti et al. (2015).

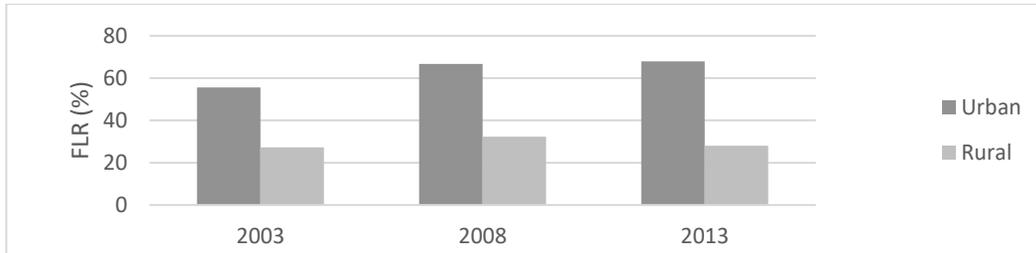


Source: (NDHS, 2003; 2008; 2013)

Figure 6: Rates of Child Spacing in Nigeria According to Regions

The National Population Policy of 2004 recommended a minimum of two years child spacing of about 75% target for lactating mothers, but only less than 15% of women keyed into to this policy

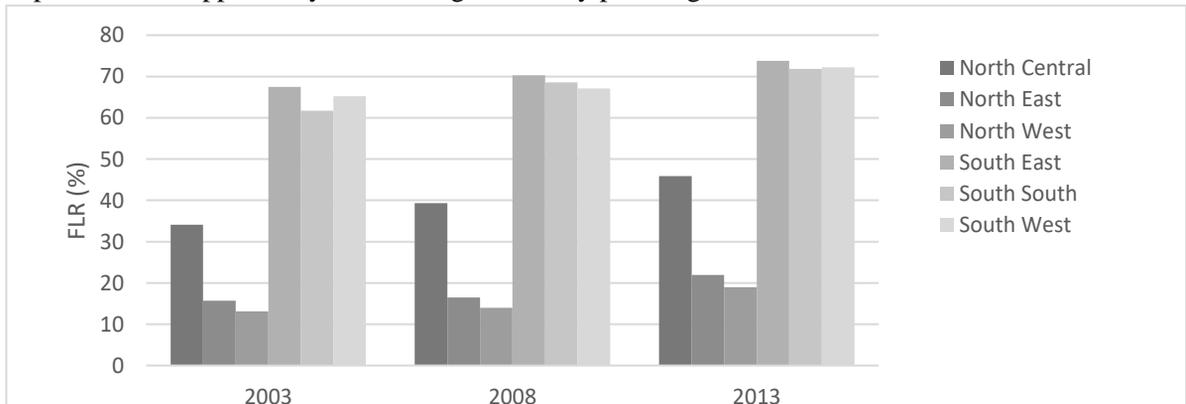
(NPP, 2004; NPC & FMH, 2015). In addition, the figure 6 above depicts a somewhat declining trend in the number of mothers who complied with the two years child spacing recommendation in almost all the six geo-political zones in Nigeria. This result corroborates the findings of Njiforti et al. (2016) and that of Adeyanju et al. (2017) who reported that only less than 15% of lactating mothers' key into the two years child spacing policy in Nigeria, they concluded that apart from the health risk involved, a less than two years child spacing practice reduces women's chances of participating in labour force.



Source: (NDHS, 2003; 2008; 2013)

Figure 7: Female Literacy Rates in Nigeria According to Residence

Figure 7 above 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% (NPP, 2015). This result is in line with the findings of Okeke (2018) and Adeoti *et al.* (2015), they reported that years a girl spends outside the school will invariably push her into early marriage and prevent her from acquiring the necessary educational capacities to participate in the labour force as well as deprive her the opportunity to make a good family planning decision.

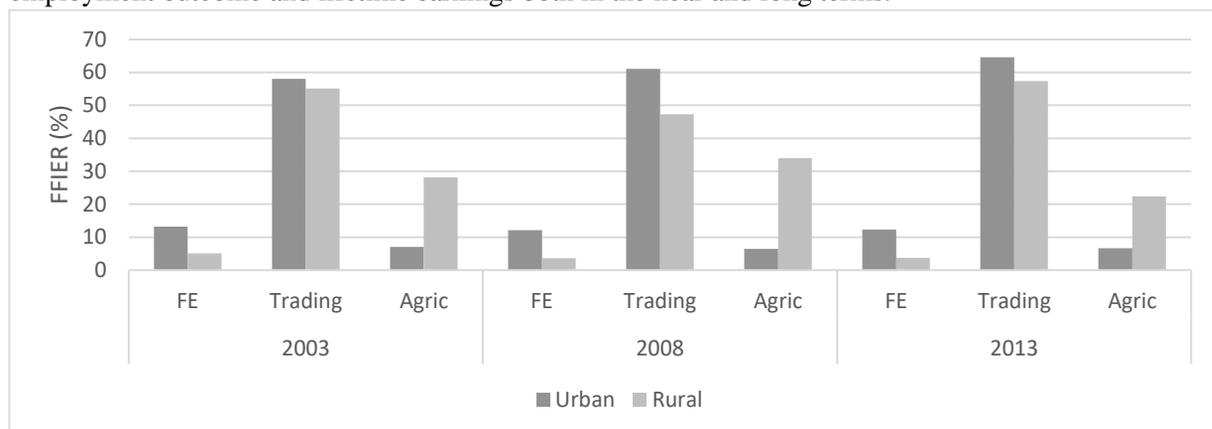


Source: (NDHS, 2003; 2008; 2013)

Figure 8: Female Literacy Rates in Nigeria According to Region

Figure 8 above also indicates a decline in female literacy rates in the north-east, north-west and north-central (less than 20%) compared to south-east, south-south and south-west (65%) geo-political zones in Nigeria which are all against government's target of 100% (NPP, 2004; NPC & FMH, 2015). The above situation illustrates that the 2004 National Population Policy target which aims to increase female literacy rate by 46.9 percentage points (100%) by 2015 is not effective. This is because the ratio of men to women literacy rate currently stand at 85% to 20% (NBS, 2018). According to Patton

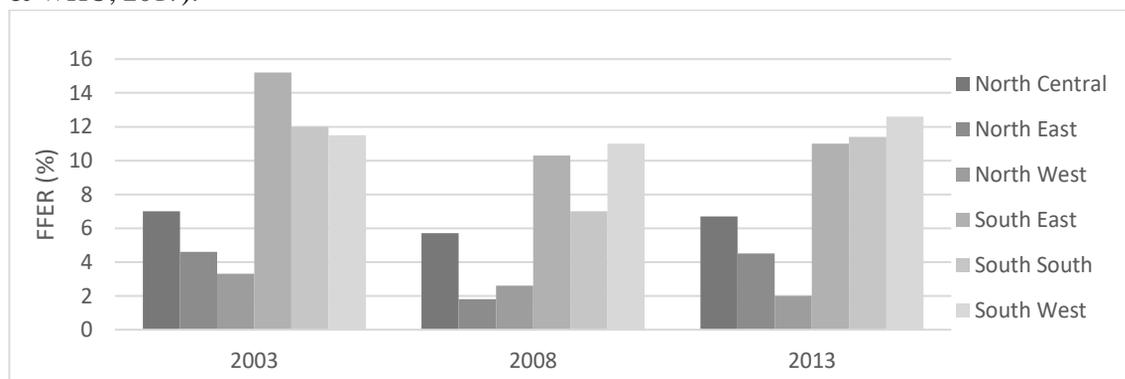
(2015) and Njiforti et al. (2016) the above ugly trend has a serious economic implications on women employment outcome and lifetime earnings both in the near and long terms.



Source: (NDHS, 2003; 2008; 2013) note: FE denotes Formal Employment While Trading and Agric Constitute the Informal Employment

Figure 9: Female Formal & Informal Employment Rates in Nigeria by Residence

Figure 9 above shows the proportions of women in formal and informal employment in Nigeria. The figure indicates that only 10% and 5% urban and rural women were absorbed into formal employment sector in Nigeria as against government’s target of 100% for both rural and urban women. This of course can be justified by the study conducted by the National Bureau of Statistics (2018), the study reports that majority of the women in urban areas were absorbed into the formal sector of the Nigerian economy as compared to rural women, this is due to high child spacing practice and educational achievements of the urban women. In addition, Silverman et al. (2012) and Smith et al. (2013) also reported 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 due to their negative reproductive behaviours (NBS, 2018 & WHO, 2017).



Source: (NDHS, 2003; 2008; 2013)

Figure 10: Female Formal Employment Rates in Nigeria by Regions

The figure 10 above illustrates that only 2%, 4% and 6% 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% women from the southeast, southsouth and southwest were in formal employment. 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 as reported by NBS (2018) and WHO (2018).

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 re-affirm the information published in the National Demographic Health Survey reports for 2003, 2008 and 2013 respectively. However, the use of cross-sectional survey becomes imminent because the National Demographic Health Survey reports for 2003, 2008 and 2013 used for the first part of the analysis in this section only accounted for the demand side of reproductive health programmes without providing information as regards to government's commitments to reproductive health infrastructures which constitutes the supply side.

In view of the above situation, 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 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 childbearing 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 1: Socio-economic Characteristics of Respondents by Residence

Variables	Sabon-Gari LGA		Giwa LGA	
	Freq.	Percent	Freq.	Percent
Religion (Denomination)				
Islam	255	99.22	112	99.12
Christianity	2	0.78	1	0.88
Ethnicity (Culture)				
Hausa	257	93.00	107	90.69
Yoruba	2	2.00	6	5.31
Igbo	0	5.00	8	4.00
Marital Status				
Married	257	100	109	96.46
Divorced/Separated/ Widowed	0	0.00	4	3.54
Marital Duration				
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	0	*0.00

Age of Respondents

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

Educational Background (N=370)

Formal	122	25.47	16	7.16
Informal	135	79.53	97	92.84

Kind of Formal Education (N=138)

Primary	32	26.23	4	35
Secondary	25	20.49	10	62.5
Tertiary	65	53.28	2	1.5

Educational Qualification (N=138)

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	0	*0.00
B.Sc	16	13.11	0	*0.00
Others	29	23.77	2	12.5

Family Structure of Respondents

Polygamous Family Structure	63	75.51	60	83.10
Monogamous Family Structure	194	24.49	53	16.90

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

Table 1 illustrates that 99.22% and 0.78% of the respondents in Sabon-Gari are practicing Islam and Christianity with majority being predominantly Muslims while 99.22% and 0.88% constitute the proportions of the respondents in Giwa LGA that practice Islam and Christianity. However, the family structure of the respondents also indicates that about 75.51% of the respondents in Sabon-Gari have polygamous family structure while 83.10% of the respondents in Giwa LGA also have polygamous family structure. In addition, 24.49% of the respondents in Sabon-Gari have monogamous family structure while 16.90% of the respondents in Giwa LGA have monogamous family structure. Studies like Popoola (2016) and Adeoti et al. (2015) have found correlation between socio-economic backgrounds of households, women’s reproductive health behaviour and labour force participation rate of women in Nigeria.

Table 2: Reproductive Characteristics of Respondents by Residence in Last Five Years

Variables	Sabon-Gari LGA		Giwa LGA	
	Freq.	Percent	Freq.	Percent
Total Number of Living Children (TFR)				
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

Analysis of the Impact of Reproductive Health Outcome on Women Labour Force ...

9	34	13.23	14	12.39
10 and above	41	15.95	18	15.93
Interest in having more Children				
Yes	210	81.71	102	90.27
No	47	18.29	11	9.73
Age at Marriage				
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
Maternal Age at First Birth				
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
Decision Making on Number of Children & Child Spacing				
Decision made alone by wife (n=257)				
Yes	5	9.73	11	1.95
No	252	98.05	102	90.27
Decision made alone by Husband (n=257)				
Yes	154	69.92	80	80.80
No	103	30.08	33	19.20
Joint decision by both couples (n=257)				
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 2 above indicates the respondents' number of living children, age at marriage, maternal age at birth etc in the study locations which form the cardinal pillars in this analysis because of its direct impact on reproductive health and population policies and programmes of the government.

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.

Further, the table also illustrates that about 79.93% and 95.58% of the respondents both in Sabon-Gari and Giwa LGAs married at less than 18 years of age. The table also indicates that 20.07% and 4.41% of the respondents both 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 3: Reproductive Health Outcomes by Respondents in Sabon-Gari & Giwa LGAs

Variables	Sabon-Gari LGA (N=257)		Giwa LGA (N=113)	
	Freq.	Percent	Freq.	Percent
Use of modern family planning (CPR) (N=370)				
Yes	52	5.23	6	1.31
No	205	94.77	107	98.69
Effectiveness of the use of any modern family planning methods (N=58)				
Effective	24	66.67	6	46.15
Very effective	25	33.33	2	33.33
Not effective	3	0	0	5.77
Husbands and socio-cultural factors as reasons for not using contraceptives (N=312)				
Yes	189	92.20	106	99.07
No	16	7.80	1	0.93
Birth Interval Between Children (CHSP) (N=370)				
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 3 shows that only 5.23% respondents in urban area (Sabon-Gari LGA) adopt modern family planning while 1.31% respondents in the rural area (Giwa LGA) utilize modern family planning. By implications, women in urban areas practice modern family planning more than their counterparts in the rural areas.

Table 4: Reproductive Health Outcomes in Sabon-Gari and Giwa LGA in the Last Five Years

Variable	Urban (N=257)		Rural (N=113)	
	Freq.	Percent	Freq.	Percent
MMR/Still Birth (N=370)				
Yes	152	79.14	47	88.59
No	105	10.86	66	10.41
Infant Mortality Rate (N=370)				
Yes	147	70.80	62	74.87
No	110	29.20	51	25.13
Age of Child at Death (N=172)				
0-4	82	75.23	51	80.95
5-9	22	20.18	12	19.05
10-14	5	4.59	0	0.00
Child Immunization Rate (N=370)				
Yes	209	81.64	94	83.19

No	47	18.36	19	16.81
Frequency of immunization (N=370)				
Often	48	20.97	23	14.47
Very often	94	34.98	55	18.51
Not often	67	44.06	16	67.02

Source: (Field Survey, 2018)

Table 4 above shows that 79.14% and 88.59% of the respondents in Sabon-Gari and Giwa LGAs have stillbirths in last five years. In addition, 62.80% and 74.87% of the respondents in Sabon-Gari and Giwa LGAs also had infant mortality in last five years. The implication of this is that Nigeria reproductive health outcomes has continued to witness a negative trajectory despite government's commitment to reproductive health programmes.

Table 5: Socio-economic Characteristics of Respondents by Residence

Variables	Sabon-Gari LGA		Giwa LGA	
	Freq.	Percent	Freq.	Percent
Employment Status (N=370)				
Employed	105	30.86	*0.0	*0.00
Not employed	152	69.14	113	100.0
Kind of Employment (N=105)				
Formal	75	31.43	*0.0	*0.00
Informal	30	68.57	*0.0	*0.00
Kind of Formal Job (N=75)				
Public service	72	30.00	*0.0	*0.00
Private service	3	70.00	*0.0	*0.00
Forms of Formal Job (N=75)				
Banking	7	45.33	*0.0	*0.00
Civil servant	32	20.67	*0.0	*0.00
Teaching	33	30.00	*0.0	*0.00
Other kind of formal job	3	4.00	*0.0	*0.00
Time of Getting Job (N=75)				
After Marriage	63	84.00	*0.0	*0.00
Before Marriage	12	16.00	*0.0	*0.00
Duration of Acquiring Job After Marriage (N=75)				
Less than 1 year	20	2.67	*0.0	*0.00
2 years	8	1.67	*0.0	*0.00
3 years	13	2.33	*0.0	*0.00
4 years	9	40.00	*0.0	*0.00
5 years & above	25	53.33	*0.0	*0.00
Family Income Level				
Low income < 40,000	67	76.07	72	83.72
Medium income 40, 000 - 80,000	131	20.97	41	16.28
High income > 80,000	59	22.96	*0.0	*0.00

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

The table above indicates that 30.86% of the respondents in Sabon-Gari LGA are in gainful employment while 100% of the respondents in Giwa LGA are not employed. In addition, about 69.14% of the respondents in Sabon-Gari LGA are not employed while 100% of the respondents in Giwa LGA are also not employed. In addition, in respect to the kind of employment, about 31.43% of the respondents in Sabon-Gari LGA are in formal employment while there are no respondents in Giwa LGA in a formal employment.

The table further reports that about 68.57% of the respondents in Sabon-Gari LGA are engaged in informal employment while 99% of the respondents in Giwa LGA are not engaged in any form of informal employment. By implication, the cross-sectional report in the table above indicates that women in the urban areas are more engaged in income generating employments than their counterparts in the rural areas.

Estimated logistic regression model

Table 6 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 Giwa and Sabon Gari LGAs of Kaduna State Nigeria:

Number of obs	370
LR chi ² (7)	170.21
Prob > chi ²	0.0045
Pseudo R ²	0.386
Log likelihood	-135.598

FLFP	Coefficients	Std. Err.	Z	P>z	[95% Conf. Interval]	
EDU	-0.92	0.34	1.32	0.01**	-1.50	2.84
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
_cons	-4.68	1.53	-1.05	0.56ns	-7.69	-1.68
Odds Ratios						
EDU	1.75	3.00	1.32	0.01**	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
_cons	8.43	0.01	-1.05	0.56ns	0.90	0.19

*Note: Dependent Variable: FLFP = Female Labour Force Participation; Independent Variables: TFR = Total Fertility Rate, EDU = Education, RLGN = Religion, CHSP = Child Spacing, AM = Age at Marriage and CLTR = Culture, CPR = Contraceptive Prevalence Rate. Coefficients with ** denote that they are significant at 5% level while coefficients with ns connotes that they 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, contraceptive prevalence rate and total fertility rate are less likely to influence women 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 their poor reproductive health behaviour. For example, many more women work in the service sector as compared to men. Studies like NBS (2018) and WHO (2017) have also reported 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 their negative reproductive behaviours characterized by high birth rate, poor child spacing and low educational achievement. For instance, educational variable of women in the study locations is 1.7 times less likely to influence their labour force participation. This can be attributed to the low level of women formal education in the study area. For instance, only about 20% of the sampled women in Sabon Gari have formal education and only 8% in Giwa have formal education. Some of the reasons for the low level of formal education can be attributed to early marriage as more than 70% of women in the study areas 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 labour force compared to women who practice family planning. In agreement with the above statement cross-sectional survey reports from the study locations reveals that only 6.45% of the respondents are using any modern contraceptives. In addition, the cross-sectional survey reports also disclose that 69.14% and 99% of the respondents in Sabon-Gari and Giwa LGAs are not engaged in any form of employment due to their low educational backgrounds and poor reproductive health behaviours. In addition, studies like Kashalala (2014) and Sufiyan *et al.* (2013) report that women who do not use modern contraceptives are more likely not to participate in labour force since childbearing requires quality time, women spend longer time taking care of children and doing other household responsibilities that keep them away from formal or informal paid jobs.

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 women practicing Islam or Christianity reduces the probability that a woman would take up a paid jobs 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 labour force which is expected as majority of men practicing Islam especially in the study locations negate their women from participating in paid employment as reveal by the participants of the Focus Group Discussion 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 (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 have birth interval of less than two years, this reduces the respondents' chances to participate in paid employment as most employers of labour don't employ nursing mothers and some don't give maternity leave or pay salaries during maternity leave. Thus, less than two years child spacing can be detrimental to women and child health status and labour force participation (WHO, 2016).

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 employment in the labour force 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), NDHS (2013), NPC (2015) 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 activities.

Household size (total fertility rate- TFR) also appears to be negative with value of -4.76 meaning that a unit increase in household size or total fertility rate reduces women 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 labour force compared to women with four or less than four children. This indicates a trade-off between childbearing and women labour force participation. In addition, cross-sectional survey report from the study locations also reveals that 81% of the respondents have between 5 to 10 children per woman which is not in line with government policy of four children per woman of reproductive age.

Family income (FAY) coefficient also appears to be positive with the value of 2.17 but not significant. 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 take up a paid job 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 level 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, age at marriage, total fertility rate and family income while the significant

determinants of female labour force participation in the study locations are religion, culture and education respectively.

5. Summary and Conclusion

Based on the selected reproductive health variables such as total fertility rate, modern contraceptive prevalence rates, child spacing, women labour force participation as extracted from the National demographic Health Survey reports for 2003, 2008 and 2013 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 or lower 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 employment jobs as compared to women in the urban areas. Therefore, this development has accounted for the reason for low women's labour participation in 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 capacities that can enable them participate in economic activities 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 National Demographic Health Survey reports for 2003, 2008 and 2013 respectively.

6. Recommendations

Following the result of the analysis of the impact of reproductive health outcomes on women 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 labor 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	TOTAL FERTILITY RATES			CONTRACEPTIVE PREVALENCE RATES		
	2003	2008	2013	2003	2008	2013
NORTH-CENTRAL	5.7	5.5	5.5	13.3	13	12.4
NORTH-EAST	7	7.2	6.3	4.2	4	2.7
NORTH-WEST	6.7	7.3	6.7	4.9	2.8	3.6
SOUTH-EAST	4.5	4.8	4.7	22.5	23.4	11
SOUTH-SOUTH	4.6	4.7	4.5	25.4	26.2	16.4
SOUTH-WEST	4.5	4.5	4.6	32.7	31.7	24.9

Source: (NDHS, 2003, 2008 & 2013)

The global benchmark for total fertility and contraceptive prevalence rates for developing country like Nigeria are 4 children per woman and 64.34% contraceptive usage per woman of childbearing 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.

The global benchmark for total fertility and contraceptive prevalence rates for developing country like Nigeria are 4 children per woman and 64.34% contraceptive usage per woman of childbearing age for developing countries (World Bank, 2015 & UNICEF, 2012). However, the result in the table a

Table 2: Reproductive health outcomes in Nigeria by Residence

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

Source: (NDHS, 2003, 2008 & 2013)