

**DETERMINANTS OF FERTILITY BEHAVIOUR AMONG
WOMEN IN NORTH-WEST, NIGERIA**

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DSS/12/0624

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**A RESEARCH PROJECT SUBMITTED TO THE DEPARTMENT OF
DEMOGRAPHY AND SOCIAL STATISTICS, FACULTY OF
HUMANITIES AND SOCIAL SCIENCES, FEDERAL UNIVERSITY,
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AWARD OF BACHELOR OF SCIENCE (B.Sc) HONS IN
DEMOGRAPHY AND SOCIAL STATISTICS**

SEPTEMBER, 2016

CERTIFICATION

This is to certify that **OMOLOJA AYOMIDE VICTORIA** of the Department of Demography and Social Statistics, Faculty of Social Sciences, carried out a research on the topic "**DETERMINANTS OF FERTILITY BEHAVIOUR AMONG WOMEN IN NORTH-WEST, NIGERIA**" in partial fulfilment of the award of Bachelor of Science (B.Sc) in Federal University Oye-Ekiti, Nigeria under my Supervision.

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DEDICATION

This project is dedicated to GOD Almighty for His grace and mercy to complete this project.

Also, this project is dedicated to Mr & Mrs Omoloja, my darling parents and my siblings,

Solomon and Folashade and to all who stood by me during this project.

ACKNOWLEDGEMENT

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ABSTRACT

Despite the various strategies and policies, Nigeria's total fertility (5.5) remains on the high side. The main objective of the study is to examine factors that determine the fertility behaviour among married women in North-West, Nigeria. The dependent variables are total children ever born, number of living children and fertility desire. The study utilized secondary data from the Nigeria Demographic Health Survey 2013 with a study population of 9567 currently married women in the North-West, Nigeria. Descriptive statistics indicated that majority of the married women had less than 5 number of living children, total children ever born and also indicated they wanted another child. Chi-square analysis showed that fertility desire was significantly associated with age, residence, education, religion, knowledge of contraceptive method, ever used contraceptives and work status. Number of living children was significantly associated with work status, religion, education, knowledge of contraceptive method, wealth index and age while the total children ever born was found to be significantly associated with working status, use of contraceptives, inter spousal communication, religion, place of residence, knowledge of contraceptive method, wealth index and age. Logistic regression results indicated that level of education influenced fertility desire. Age influenced the number of living children while religion, age and level of education influenced total children ever born. Therefore, age, education and religion are relevant factors that may assist in shaping fertility behaviour in North-West, Nigeria.

CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND OF THE STUDY

Fertility is an important component of population change and it affects in the size and structure of a population. Fertility level can influence on the socio-economic, demographic and environmental development of a country. Fertility can be characterized by the number of living children, children ever born and fertility desire. Measuring fertility intentions (the desire for more children), and determining the extent to which they predict fertility behaviour, is important for population policy and the implementation of family planning programs.

The demographic pattern of developing countries such as Nigeria is characterized by high fertility, high infant and child mortality. Nigeria is one of the African countries in which the fertility transition (a shift from high, fluctuating fertility rates to low and controlled fertility rates) has been stalling. The rate of fertility differs from region to region and also by the place of residence. Women who reside in urban areas are more likely to have an estimate of 4.7 children on average, compared with 6.2 children per woman in rural areas (NDHS, 2013). Fertility is highest in North-West Zone, where women have an average of 6.7 children. Fertility is lowest in South-South Zone, where women have an average of 4.3 children (NDHS, 2013).

Nigeria's current total fertility rate (TFR) of 5.5 (0.2 fewer children per woman than the TFR of 5.7 reported in both the 2003 and 2008 NDHS surveys). The high TFR combined with low CPR (contraceptive prevalence rate), low death rate (14.02 deaths per 1000 women), high birth rate (38.03 births per 1000 population (CIA World Factbook)) and low

infant mortality (estimated at 76.31 per 1000 live births (UN Pop. Division 2015 Revision)) could be contributing towards high population growth in Nigeria. The fertility rate is the highest in sub-Saharan Africa than many parts of the world, mainly due to strong kinship networks and high economic and social values attached to children (Hinde and Mturi, 2000).

Fertility behaviour is conditioned by both biological and social factors. And as in other traditional African societies, several factors have contributed to sustain relatively high levels of fertility in Nigeria. These factors include high level of infant and child mortality, early and universal marriage, early child bearing as well as child bearing within much of the reproductive life span, low use of contraception and high social values placed on child bearing. In the face of perceived high infant and child mortality, the fear of extinction encouraged high procreation with the hope that some of the births would survive to carry on the lineage. The traditionally high values placed on marriage ensured not only its universality but also its occurrence early in life with the consequence that child bearing started early in life and in most cases continued until late in the reproductive span. The institution of polygyny which sometimes promotes competition for childbearing among co-wives also contributed to sustain high fertility. Use of modern contraception was traditionally unacceptable as it violated the natural process of procreation. The traditional long period of breast-feeding and postpartum abstinence guaranteed adequate spacing between children. Available evidence suggests that there have been changes in these socio-cultural factors over time. Age at marriage appears to have increased, though minimally when viewed at the national level. Use of modern contraception has increased, and improved education (especially of women) appears to have gradually eroded some of the traditional values placed on child bearing.

Between 1970 and 1988-90 there was a slight decline in fertility between the two dates, the TFRs for 1980-82 and 1988-90 suggest stagnation in fertility levels in the eighties

and continued in 2003, and by 2013 the decline in fertility had stalled as shown by the following trend in TFR: 1965- 6.6, 1970- 6.5, 1971-1973-7.3 and 1975-7.0, 1982-5.94, 1990- 6.01, 2003/2008-5.7 and 2013- 5.5. Further decline in TFR was indicated for 1992-1994 by a 1994 sentinel survey (5.4) and for 1995-1999 by the 1999 Demographic and Health Survey (5.2). The decline is not only evident at the national level but also among different sub-groups. For declines in fertility to be sustained, there must be changes in fertility norms towards smaller family size. Fertility norms, usually reflected by the demand for children, are most often measured by the number of children desired under prevailing social and economic conditions. Although it is sometimes influenced by the number of living children, patterns of changes and differentials in desired fertility sometimes provide valuable insight into probable future course of fertility. Consistent with the theory of the demographic transition, a future decline in fertility could be anticipated when fertility desires decline and become much lower than actual fertility. Changes in desired fertility reflect changes that would have occurred in achieved fertility had desires translated into behaviour. The percentage of women with four living children who wanted no more children increased from 5.4 in 1981/82 to 16.9 in 1990, (an increase of about 300 per cent) and to 22.6 in 1999 (an increase of over 400 per cent). The trend of a decline in the demand for children, portrayed by the percentages wanting no more children in 1981/82 and 1990 was reinforced by data on mean ideal number of children. Not only was the overall mean ideal number of children lower in 1999 (6.7 in 1999 as against 8.36 in 1981/82), parity-specific mean ideal number of children was lower for all parities in 1990.

The decline in wanted total fertility rates (WTFR) is also evident for rural and urban residents and for all regions, with the exception of the North-east. Declines in desired fertility are expected to generate declines in actual fertility (Sathar and Casterline, 1998), especially if associated with increased contraceptive use. Even if there is yet no considerable decline in

fertility, the observed trend of a decline in desired family size 10 provides some ground to predict further declines in Nigeria's fertility in the future.

However, the enormous intra-country fertility differentials in Nigeria and their significant implications for pointed policy and programmatic responses to the country's demographic and development challenges are not adequately emphasized in research, policy and program agendas. Generally, national-level fertility and reproductive health indicators conceal enormous subgroup disparities in fertility and contraceptive dynamics within the country.

Building on Nigeria's complicated web of ethnic, regional and religious identities and their implications for fertility behaviour and outcomes, in this research focuses attention on the determinants of fertility behaviour, particularly on the roles of subgroup fertility differentials, which must be understood and targeted with interventions if fertility growth levels consistent with national development aspirations are to be achieved. Highlights on the extent to which specific subgroups within Nigeria have experienced an increase or stagnation in their fertility levels while other subgroups continue to experience fertility decline.

1.2 STATEMENT OF PROBLEM

High fertility is associated with increased obstetric and medical risks of mothers and reduced chance of survival for children, in order to reduce fertility and control population growth of the country, the factors that influence fertility should be clearly identified (Zhang, 2007). There still exists wide variations and slow pace of decline in fertility levels, in spite of the decline of fertility throughout the world over the years (Munshi and Myaux, 2006). The causes of these variations and slow pace of decline in fertility levels are issues that require explanation. These variations differ from regions to regions and also the place of residence.

High fertility desire closely followed by the slight reduction in number of children ever born and the number of living children that prevails in most of Sub Saharan Africa, Nigeria included, hinders fertility decline as desire for large families' leads to high fertility.

As much as National and global initiatives have been put in place to improve rapid population growth and its adversities (GOK, KPSA 2013) total fertility rate (TFR) in Nigeria still remains high at 5.5, while Contraceptive Prevalence rate (CPR) for all methods is limited at 15%. Of worthy to note is that by 1982 the rate of fertility decline had begun to slow down, and by 2013 the decline in fertility had stalled. Desired family size for Nigerian women is on average 6.5 children while men want 8 children. Women's ideal family size is highest in North-West Zone (8.4) and lowest in South-West Zone (4.5). In relation to fertility desires it has been noted that for various reasons the desired family size cannot exactly be accomplished and actual fertility level exceeds the desired which is the typical nature of a developing country.

There are differentials in fertility by residence (urban-rural), state and education level. The urban total fertility rate (TFR) of 4.7 is considerably lower than the 6.2 for rural areas, and these results closely match with the national urban and rural TFR from the 2013 Nigeria DHS (4.7 and 6.3 respectively). In all the states, the rural TFR of 6.7 exceeds the urban TFR of 4.6 by 2.1 children possibly indicating that the urban-rural fertility differential reflects differences in marital rates, namely later age at marriage among urban women. Fertility also varies by state. Katsina's TFR is higher (6.6) than Yobe (5.8) and Zamfara (5.5). As is often the case, fertility rates are lower among women with higher levels of formal education. Although the TFR for women with no education and primary education differs little (6.7 versus 6.6), it decreases to 5.2 children for women with secondary and higher education. Comparison of the mean number of CEB for women aged 40-49 with the TFR allows for a comparison of current and previous fertility. As a measure of past or completed fertility, the

CEB40-49 is subject to possible underreporting of births, particularly of children who have subsequently died and reflects earlier fertility patterns that were in effect when the current 40-49 year olds were beginning their marriages and families. If TFR and CEB40-49 were approximately the same, this would provide evidence that fertility rates had changed little in the past 20 or so years. If CEB40-49 is greater than the TFR, then current fertility would have declined from higher levels in the past. The CEB 40-49 is consistently higher than the TFR. Compared to women beginning their reproductive periods today, women who began their reproductive lives 20 years ago had 1.5 more children than today's young women can expect to have. The greatest recent declines in fertility appear to have occurred in urban areas and among women with secondary or higher education, and to have been relatively greater in Katsina and Zamfara states.

1.3. RESEARCH QUESTIONS

- i.) What is the fertility level of women in Nigeria?
- ii.) What are the determinants of fertility behaviour among women in Nigeria?

1.4. RESEARCH OBJECTIVES

Main Objective

The main objective of the study is to examine factors that determine the fertility behaviour among married women in North-West, Nigeria.

Specific Objective:

- i.) To ascertain the level of fertility of women in North-west, Nigeria.
- ii.) To examine the influence of socio-demographic characteristics on fertility behaviour of women in North-west, Nigeria.

1.5. JUSTIFICATION

Fertility behaviour are important measures for estimating levels of child mortality, survival rate of children(living children) and the fertility desires of couples(most especially women as regarded in this study). They inform and advice population policy and family planning programs and also contribute to existing literature on fertility studies.

Nigeria's current total fertility rate (TFR) of 5.5 (0.2 fewer children per woman than the TFR of 5.7 reported in both the 2003 and 2008 NDHS surveys) is projected to continue to decline, but questions remain about whether this decline is inevitable and whether it will continue apace. Regardless, Nigeria's population growth will continue through at least 2050 due to simple population momentum. Other challenges are the persistent and vast fertility differentials; many groups remain above replacement fertility across various social and geographical sub-units of the country. Using data primarily from the 2013 Demographic and Health Survey (DHS), as well as from 2003 and 2008 surveys, it is documented that many population subgroups and zones of the country are finally beginning to show signs of fertility convergence and decline. Nevertheless, some population subgroups still have higher fertility, especially: Hausa/Fulani/Kanuri women, women who live in the North West geopolitical zone, Muslim and traditionalist women, women who live in poor households, women who have lower levels of education, women who are opposed to family planning, women who marry early, and women who give birth early. In order for the projected decline in the TFR to continue, these subgroups must be highlighted, understood, and targeted with fertility- and poverty-reducing interventions.

CHAPTER TWO

LITERATURE REVIEW

2.0 INTRODUCTION

This chapter seeks to examine different literatures on determinants of fertility behaviour. It considers fertility situation in the world relating it down to Africa and also to Nigeria. This section also examines factors associated with fertility behaviour in Nigeria, different theories on fertility behaviour (theoretical review) and conceptual framework on fertility behaviour.

2.1 OVERVIEW OF FERTILITY SITUATION IN THE WORLD

The global population of women in reproductive ages (15-49) was about 1854 million in 2013 with 5.6 billion (82% of the world total) living in the less developed regions (UN, 2009). The population of the more developed regions remained largely unchanged at 1.2 billion inhabitants. Three least developed countries including Bangladesh, Ethiopia and the Democratic Republic of the Congo are among the ten most populous countries in the world. Thus, whereas the population of more developed regions is rising at an annual rate of 0.34 per cent, that of the less developed regions is increasing four times as fast, 1.37 per cent annually, and the least developed countries as a group are experiencing even more rapid population growth, at 2.3 per cent per year (UN, 2009).

The average total fertility rate for sub-Saharan Africa as a whole is more than five children per women, which is almost twice the world average of 2.5 (PRB, 2011). More developed regions have fertility levels below replacement (2.1); whereas, least developing regions have five or above five children per women (UN, 2009).

Nigeria's total fertility rate (TFR) of 5.5 children per woman in 2013 fell amidst the group of West African countries where data are accessible (Benin, Burkina Faso, Ghana, Guinea, Liberia, Mali, Niger, Nigeria, and Senegal). TFRs for the region range from 4.0 in Ghana to 7.6 in Niger (National Population Commission and ICF International, 2014). The TFR stays above the average TFR for sub-Saharan Africa (SSA), the less-developed regions (LDRs), and the more-developed regions (MDRs). In SSA, the current TFR is about 5.4, which is significantly higher than in the LDRs (2.7) (United Nations, 2013).

The MDRs, as is well established, are well below replacement level (2.1) at only 1.66 children per woman as of 2010. Nigeria's current TFR of 5.5 is lower than it was in 1990 (6.3), 2003 (5.7), and 2008 (5.7). According to the DHS reports for the past three surveys, the TFR stalled at 5.7 between 2003 and 2008, and only marginally declined to 5.5 by 2013 (only 0.2 fewer children per woman) (National Population Commission and ICF International, 2014).

However, the huge intra-country fertility differentials in Nigeria and their significant ramifications for pointed policy and programmatic responses to the country's demographic and development difficulties are not adequately emphasized in research, policy and program agendas. For the most part, national-level fertility and reproductive health indicators cover tremendous subgroup differences in fertility and contraceptive changes within the country. Nigeria is not the only one in these changes; proof from Kenya and other East African countries, as illustrated by the variations in slowed fertility declines, shows that the slowdown is particular to subgroups with certain socio-economic characteristics (Ezeh et al., 2009). The stall in Kenya is identifiable among women with lower or no formal education. Fertility decline, though minor, proceeds among the most educated women. Similarly, the stall in contraceptive prevalence is seen mainly among younger women and among those with less education (Westoff and Cross, 2006).

2.2 FACTORS ASSOCIATED WITH FERTILITY BEHAVIOUR IN NIGERIA

1. FERTILITY DESIRE

For declines in fertility to be supported, there must be changes in fertility norms towards smaller family size. Fertility norms, usually reflected by the demand for children, are most often measured by the number of children desired under prevailing social and economic conditions. Despite the fact that it is sometimes influenced by the number of living children, patterns of changes and differentials in desired fertility sometimes give valuable insight into probable future course of fertility. Consistent with the theory of the demographic transition, a future decrease in fertility could be foreseen when fertility desires decline and become much lower than actual fertility. Changes in desired fertility reflect changes that would have happened in achieved fertility had desires translated into behaviour. To make predictions about future course of fertility in Nigeria, there is the need to investigate patterns of change in fertility norms.

Decreases in desired fertility are expected to generate declines in actual fertility (Sathar and Casterline, 1998), especially if associated with increased contraceptive use. Even if there is yet no considerable decline in fertility, the observed trend of a decline in desired family size provides some ground to predict further declines in Nigeria's fertility in the future.

2. CONTRACEPTIVE USE

The fertility restraining impact of contraception has been demonstrated by several studies. Although to some degree little at present due to low prevalence and high use of less effective methods, in line with the experience of other countries (Westoff, 1990, Ross and Frankenberg, 1993, Cohen, 1998), the fertility inhibiting effect of contraception can be

expected to increase as levels of contraceptive use increase, especially if there is a shift to more effective methods.

Contraceptive use has generally been higher in the south (especially southwest), in urban areas and among more educated women. But an increase in contraceptive use has been experienced by most sub-groups between 1990 and 1999. Some developments in the provision of family planning services are required to increase access to family planning services. To start with, the facility-based delivery of contraceptives is being supplemented by the community based distribution program in order to reach more people. The community based distribution program is being actualized in many parts of Nigeria, including the North which has the greatest resistance to family planning services. Secondly, the cooperation of non-governmental organizations in the provision of family planning sensitization, education, and counselling and delivery services has increased in recent years. In addition to meeting the already identified high unmet need for contraception in the country, these activities should be able to generate new demand for contraception.

Fairly high levels of male participation in family planning have been documented for the Southwest and Southeast (Feyisetan et. al., 1998). With expanding participation of men in family planning, a major obstruction to contraceptive adoption would have been overcome and an increase in contraceptive use can be expected. Moreover, the use of the mass media to advance family planning has been observed to be effective in changing contraceptive behaviour in Nigeria (Bankole et al., 1999).

3. OTHER FACTORS

Several socio-economic factors have been identified to have indirect effect on fertility. However, two of them are briefly highlighted here: women's education and female employment. Studies have shown that the influence of education on fertility varies greatly

between countries with different levels of schooling (Jejeebhoy, 1995; Ian Diamond et. al., 1999). However, in most cases, the relationship between women's education and fertility has been negative and several channels have been identified through which women's education influences fertility.

In Nigeria, studies have reliably indicated lower fertility among women with secondary and higher levels of education, implying that significant increases in women's education at these levels will be accompanied by a decline in fertility. Female enrolment at all levels of education has increased over the years (FOS, 1997), and there is no motivation to anticipate a reversal in the trend. Significant regional variations exist, be it as it may, in the expansion.

The participation of women in the labour force has likewise expanded throughout the years in Nigeria. However, decreasing employment prospects are reducing the impact of employment. Women employed in the formal division have more often than not been noted to have fewer children but unemployment is also becoming associated with lower fertility. Like their male counterparts, being unemployed denies women the access to resources with which to prepare for marriage and child rearing immediately after leaving school. Hence, they are compelled to postpone marriage and child rearing in order to combine their earnings capacity. Since men's resources are becoming increasingly inadequate to meet household needs, increasing proportions of men now look for employed women as partners, thus reducing marriage chances of unemployed women.

4. UNCERTAINTIES ABOUT CHILD SURVIVAL

The theoretical linkages between infant and child mortality and fertility are well known. Increased child survival chances are required to generate a decline in the propensity to "hoard" or "replace", two components by which families were perceived to have

guaranteed the achievement of desired family size. While the hoarding or insurance impact is conditioned by the general perception of mortality risks at the societal level, the replacement reflects the families' response to actual child mortality experience. The theoretical links have no doubt been difficult to support in empirical analysis; however, fertility declines which have accompanied reductions in infant and child mortality in several countries have lent credence to these hypotheses. In addition, the Working Group on Factors Affecting Contraceptive Use in Sub-Saharan Africa (1993) noted among other things that:

“Although positive correlations between child mortality and fertility do not prove a causal relationship, because of the possibility of a common cause, we think the uncertain survival of children in Africa remains one of the strong motivations for high fertility”.

Unfortunately, the situation in Nigeria is different. Several families in Nigeria still face high risks of infant and child death and recent data do not give much room to hope for considerable improvements in the future. Although projections by United Nations indicate continuing decline in infant and child mortality, information from other sources does not support such optimism.

5. INTERSPOUSAL COMMUNICATION

Studies conclude that communication between husband and wives is the first step in a rational process of fertility decision-making, and precursor of lower desired family size (Becker, 1996; Mason et al., 1987; Mahmud and Ringheim 1997; Mai, 1996). Couples' understanding, marital closeness or spousal communication is a strong indicator of intended fertility (Bankole et al., 1998). Another study (Coombs and Fernandez, 1978) proposes that communication is associated with lower fertility preference of couples. From the review of the literature on selected interventions in Africa, Toure (1996), observed that low level of

contraceptive use was due to absence of communication between spouses regarding family size.

Karen et al, (1987) found that communication factors affect husband's attitude towards family size. Uche and Isiugo (1994) found inter spousal discussion of family size and current use of contraceptives are expected to have an inverse effect on family size.

2.3 THEORETICAL REVIEW

Many economists, sociologists, psychologists, demographers and others have contributed in this field to find out, what are the different attributes which have association with fertility behaviour and how these attributes are responsible in determining or controlling the fertility behaviour of a society.

Demographers and sociologist have been working in this field for quite long, and the efforts of economists in this field in 1960's and 70's have appeared as innocent beginning among the developed communities. But the former were neither systematic and coherent, nor, general in their pieces of knowledge.

The basic assumption in economic theories of fertility is that the fertility decisions in developing countries are rational. A woman, in the absence of breast feeding, has potential of producing 15 children in their reproductive span, since a woman nowhere produce so many children. The choice making is obviously involved (Alexander, 1988). According to A.J. Coale (1973) one of the precondition of fertility transition is that the fertility decisions must be within the calculus of conscious choice. The change in mentality that leads to family limitation includes a clear notion of what family size ought to be.

Easterline came out with a series of papers in 1960's and 1970's, to accost the true context of demand and potential supply of children, and developed the supply demand theory.

He stated that, initially when the level of development is low, demand for children exceeds potential supply because of high child mortality rates (CMR) and the situation of deficit supply takes place. But with the time when the increasing level of development reduces CMR, potential supply increases and after a critical point it overtakes the demand for children and the age of excess supply starts. Further with increasing level of development, means of fertility regulation become socially acceptable and then after a period of time the stage of equilibrium would establish. Easterlin also mentioned that the effect of income also affects tastes, preferences and norms for the disposal of income. He further stated that increased income raises the relative desire for material goods and consequently lower fertility substantially. It is the most widely used theory, because it is conceptually simple and at the same time influential in explaining fertility behaviour. It synthesizes both economic and sociological approaches to the analysis of fertility. While the economists have stressed on the demand side arguments, sociologists have explored the supply side factors of the fertility differences among different societies. Among the supply side factors, those well recognized are the IMR, the female age at marriage, duration of lactation, birth interval, mother and child health care etc. these variables are identified as important intermediate variables following the proximate determinant analysis, (Bongaarts, 1978).

Caldwell (1970), in his work "Treaties of the Family" explained the fertility behaviour in terms of intergenerational wealth flow at the societal level. He explained that, in the societies where children spend more on their parents after growing up in comparison to what their parents spent on them, generally have high fertility. On the other hand if the flow of wealth is opposite or in the direction from the parents to children as find in modern societies, then in these societies fertility rate has to be lower than the previous societies.

On the basis of the empirical study of English middle class, Bank has found that to maintain 'target standard of living' people cut back their fertility. Duesenberry and Okum argued that varied socio-economic groups establish different social conventions and then conform to a very high degree of the extent to which expenditure can be varied and determine the desired number of children, (from Leibenstein, Harvey, 1974).

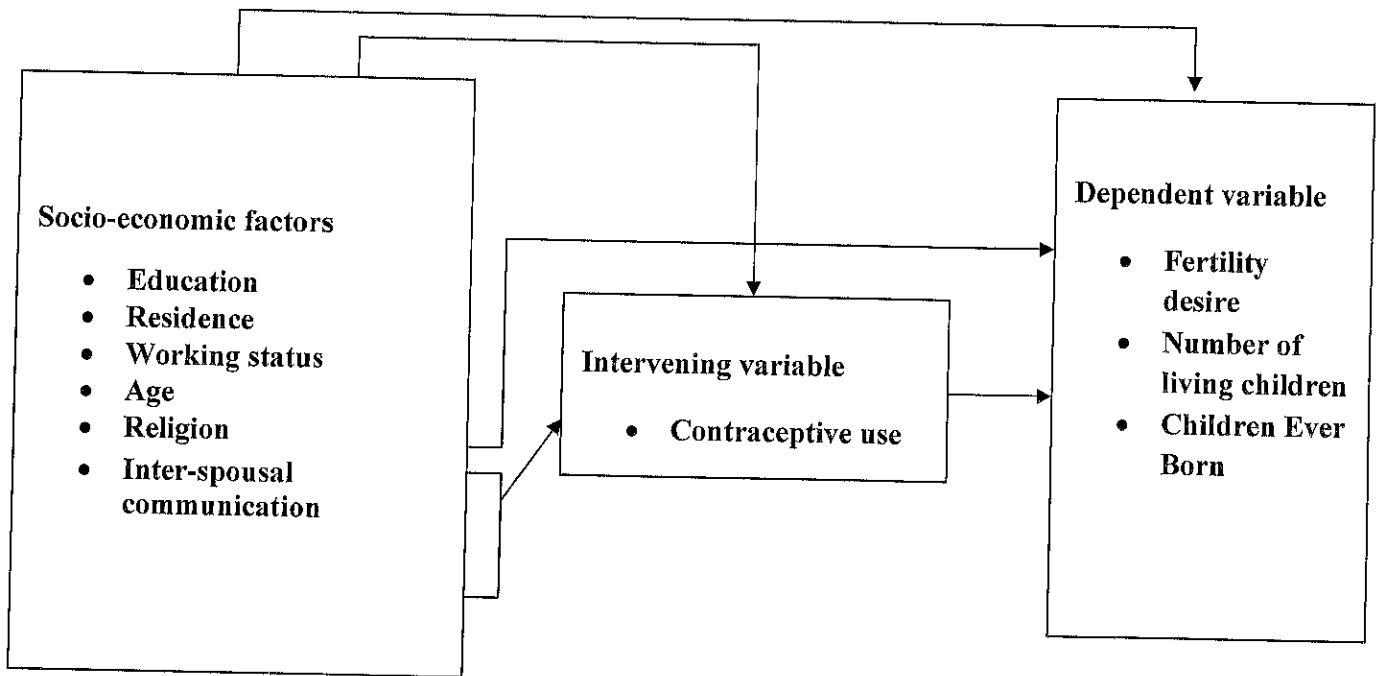
Blake (1968), Lesthage (1983) and Preston (1987) stressed on the role of norms in determining the fertility behaviour. How do norms effect individual's decision to have children? In the societies such as the Catholic Church, norms of fertility are motivated by the fear of sanctions. Norms which usually stands in opposition to desires, wishes, preferences and drives, allow groups to solve dilemmas of cooperation that flow the egoistic motivations of their members, (Friedman and Weingast, 1993). Some authors have suggested that cultural and ideological climate can produce similar effect, presumably in essence of sanctions. But there are some problems like these norms are not well defined, potentially relevant alternative causes often are not controlled, and mechanism of fertility changes due to ideological changes is not defined.

2.4 CONCEPTUAL FRAMEWORK

According to literature reviewed socio-economic, social cultural and demographic factors as well as intervening factors such as contraceptive use and inter-spousal communication may be conceptualized as factors that shape fertility behaviour of women. It is anticipated that socio-economic and demographic factors like mother's education, place of residence, working status and age have influence on fertility behaviour; cultural factors like religion also can predict the fertility behaviour and factors like inter spousal communication can influence the fertility behaviour.

In the area of the study of fertility behaviour researchers from the various fields of the knowledge approached with different type of models, which are deterministic in nature. Such type of modelling includes how various social, economic, psychological and demographic aspects are associated with fertility behaviour and among themselves. These models also deal with the direction in which these variables are operating to have an impact on fertility behaviour. In the following discussion it has been discussed that how these relationships have changed in terms of direction and nature of variables over a period of time.

In spite of the fact that the birth of a child is basically a biological phenomenon, however child bearing takes place in a particular social set-up, it is influenced by social, cultural and economic factors. So the conception of a baby is influenced by the social set up of that particular society, such as its customs, structure, norms and value system related to the various aspects of the childbirth. So it can be said that, the social environment, in which people live, which involves various political and economic settings, regulates fertility behaviour of its inhabitants. Alongside the societal effects on child bearing, decisions of individual couples about whether to have a child or not also have significant influence. Subsequently to have a profound knowledge into the issue of differential fertility one has to have a clear idea about the relationship between the independent variables for instance social, economic and demographic variables and fertility behaviour.



2.5 RESEARCH HYPOTHESIS

Null hypothesis:

1. Socio-demographic factors (age, education etc) do not influence fertility behaviour among women in Nigeria.

CHAPTER THREE

3.0 INTRODUCTION

This chapter outlines the research methodology that was used in this study. A quantitative and qualitative analysis was undertaken to complement the result. The following sub-topics were considered: study area, study population, sample size, sample design and data analysis. A qualitative analysis using an in-depth interview was carried out to compliment the data collected from the quantitative method.

3.1. BACKGROUND OF STUDY AREA

North-west, Nigeria represents one of the six geopolitical zones created during the regime of Ibrahim Badamasi Babangida. It is majorly an Hausa speaking area, although there are different dialects even within the same state and its comprises of different states such as; Jigawa, Kaduna, Kano, Katsina, Kebbi, Sokoto and Zamfara state.

3.2. SAMPLE DESIGN

The sample design is a case-control, where the cases are women with number of children ever born alive (CEB) greater or equal to 5 (high fertility). Fertility desire of women who are currently married and the number of living children bore by the women.

3.2.1. SAMPLE SIZE

In this study responses from currently married women of reproductive age (15-49) will be analyzed to establish the factors influencing their fertility behaviour. For the qualitative analysis, 4 in-depth interviews would be conducted

3.3 SOURCE OF DATA

This study was conducted using the Nigeria Demographic Health Survey (NDHS). The 2013 NDHS is the fifth Demographic and Health Survey conducted in Nigeria since 1990. A nationally representative sample of 38,948 women in all selected households was interviewed.

3.4. STUDY POPULATION

The study populations are women who are currently married and are of reproductive ages (15 to 49 years). The study subjects are selected from the NDHS data base. This group of women would be taken for this particular study by taking account of the fact that women in the north-west region are married at an early age and could have more than four children before they celebrate their twenty-fifth birthday.

3.5. INDEPENDENT VARIABLES

Age

This variable is a measure of all currently married women at reproductive ages (15-49)

Educational Attainment

This variable is a measure of the highest level of school that the respondent has attended. The variable will be categorized into four groups namely: No formal education, Primary, Secondary and Post secondary education.

Religion

This variable identifies the respondent's religious affiliation. It is grouped into Christian, Islam and Traditionalist.

Place of Residence

This is a dichotomous variable categorized as rural and urban.

Ever used contraceptives

The variable will measure if the respondent has ever used any contraceptives method to delay pregnancy or not using a method of contraceptive. This is to find out how contraceptive use affects fertility behaviour.

Inter Spousal Communication

This variable measures respondent's level of communication with their spouses regarding family planning.

Work Status

This variable measures the respondent's current working status in terms of working or not.

Wealth index

This variable measures respondent's current wealth index. It is grouped into: Poor, Middle and Rich.

Ever heard of contraceptives

The variable will measure the respondents knowledge of any contraceptives method in terms of heard no method, folkloric, traditional and modern method.

3.5.1 DEPENDENT VARIABLES

Fertility behaviour will be measured using the total children ever born, number of living children and fertility desire will be measured by the preferred desire for more children.

Total Children Ever Born and Number of Living Children

This variable seeks to measure children alive and further find out the effect on fertility behaviour. The number of living children was grouped into less than 5 children and 5 children and above. Information on the number of children ever born reflects the accumulation of births over a woman's entire reproductive period (parity). Total children ever born were also grouped into less than 5 children and more than 4 children.

Fertility Desire

Fertility desire will be measured using fertility preference on the desire for more children. Respondents who are currently married women were asked about their intentions to have another child. The question was phrased into two categories, want another or no more.

3.6. METHOD OF DATA ANALYSIS

The data would be analyzed using STATA software. The 2013 NDHS women recode data set would be used. The data would be analyzed at three (3) levels. The first level is the frequency distribution of socio-demographic data. The second level is the chi-square distribution of dependent variable (fertility behaviour) with independent variables (socio-demographic data and other selected variables). The third level is the multi-variate in which the binary logistic regression analysis would be used.

CHAPTER FOUR

4.1 INTRODUCTION

This chapter examines selected socio-economic, cultural and demographic variables including inter-spousal communication and contraceptive use and how they influence fertility behaviour among currently married women in Nigeria. The chapter also considered the result of in-depth interview as well as the bi-variate and multi-variate relationship between the variables of interest.

4.2 SOCIO-DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS

Out of the 38,948 women who were surveyed, only 26,403 are currently married women and 9,567 of the women were from the north-western region. A total of 9,567 responded to the question on fertility desire, number of living children and total children ever born. Table 4.1 shows the frequency and percent distribution of the socio-demographic characteristics of women in north-west, Nigeria.

In respect to educational attainment women with no formal education were 73.12 percent while 2.14 percent had post secondary level of education. This study found that less than half (42.37%) of the women were not working, while those working were 57.63 percent. Majority (75.57%) of the respondents were from rural areas while the urban areas had 24.43 percent respondents.

Most, (92.67 %) of the women in this study were Muslims, followed by Christians and Traditionalists who were 6.46 percent and 0.87 percent respectively.

With regard to age group, (37.09%) of the married women were in the age bracket 15-24 years. Married women within 25-34 years and those who were more than 34 years were 32.01 percent and 30.91 percent respectively. Looking at number of living children most (77.54%) of the women had less than 5 numbers of living while 22.46 percent, claimed they had more than 4 living children. Minority (5.44%) of the women had ever used any method of contraception, while 94.56 percent had not used.

In respect to knowledge of contraceptives (ever heard of any method), women who knew modern methods were 75.09 percent while 0.70 percent knew only traditional methods. With regards to wealthy index, approximately 67% of the women were in the poor category followed by rich and middle categories were 18.17% and 15.28% respectively.

Table 4.1: Socio-demographic characteristics of currently married women in North-West, Nigeria

Variables	Frequency	Percent
Age		
15-24	3,548	37.09
25-34	3,062	32.01
35+	2,957	30.91
Total	9,567	100.00
Mother's Education		
No Formal Education	6,995	73.12
Primary	1,055	11.03
Secondary	1,312	13.71
Post Secondary Education	205	2.14
Total	9,567	100.00
Place of Residence		
Urban	2,337	24.43
Rural	7,230	75.57
Total	9,567	100.00
Religion		
Christian	618	6.46
Islam	8,866	92.67
Traditionalist	83	0.87
Total	9,567	100.00
Working status		
Not working	4,031	42.37
Working	5,482	57.63
Total	9,513	100.00
Inter-spousal communication		
Mainly women	78	31.58
Mainly husband	36	14.57
Joint decision	133	53.85
Total	247	100.00
Ever used contraceptives		
No	9,047	94.56
Yes	520	5.44

Total	9,567	100.00
Fertility desire		
Want another	8,392	87.72
No more	1,175	12.28
Total	9,567	100.00
Number of living children		
<5 children	6,805	71.13
≥ 5 children	2,762	28.87
Total	9,567	100.00
Children ever born		
< 5 children	5,700	59.58
≥ 5 children	3,867	40.42
Total	9,567	100.00
Wealth index		
Poor	6,367	66.55
Middle	1,462	15.28
Rich	1,738	18.17
Total	9,567	100.00
Ever heard of contraceptive		
No method	2,159	22.57
Folkloric method	157	1.64
Traditional method	67	0.70
Modern method	7,184	75.09
Total	9,567	100.00

Source: Author's Work, 2016 (Data from 2013 NDHS)

4.3 REPORTS FROM IN-DEPTH INTERVIEW

4.3.1 INTRODUCTION

The interview was held in Sabon-Gari local government area of Kaduna state. A total of four women were used to determine the fertility behaviour of women in the North-west. Majority of the respondents were Muslims with post secondary education. Ninety percent of the respondents resided at urban areas and had a working status. Age group 25-34 had the highest respondents and they never talk to their spouses about contraceptives.

Table 4.1.2: ANALYSIS OF SOCIO-DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS WHO PARTICIPATED IN IN-DEPTH INTERVIEW

Respondent	Age	Level of education	Residence	Religion	Working Status	Ever used contraceptive	Inter-spousal Commun.
1	29	M.Sc	Urban	Islam	Not working	NO	NO
2	43	M.Sc	Urban	Islam	Civil servant	YES, anytime we have sex.	YES
3	32	M.Sc	Urban	Christian	Civil servant	NO	NO
4	28	SSCE	Rural	Islam	Trader	NO	NO

Source: Married women in Sabon- Gari L.G.A, Kaduna

4.3.2 ANALYSIS OF DEPENDENT VARIABLES (Fertility Desire, Total Children Ever Born and Number of Living Children) AS RECORDED IN INDEPTH INTERVIEW

Majority of the respondents wanted another child (90%) while 10% said they wanted no more. Those who desired another gave reasons as:

I love to have many children. I don't know who God will uplift to be the shining light.

For those who desired another child, they were influenced by their husband:

I desire a large family because my husband wants many children. I love and respect his wishes.

Some also gave reasons resulting from religious belief:

There is no specific reason for that. I'm just being fruitful and multiplying.

For those who do not want another child gave reasons such as:

There is no need for a large family. I don't think I have the time to raise them.

Majority of the respondents had total children ever born of less than 5. Out of the 4 respondents, two had 4 children in total while the remaining had 4 children ever born. For the number of living children, the respondents had less than 5 living children. The four respondents gave their number of living children as 2, 2, 3 and 4. One of the respondents claimed she lost a child due to miscarriage.

4.4 SOCIO-DEMOGRAPHIC CHARACTERISTICS AND DEPENDENT VARIABLES (Fertility Desire, Total Children Ever Born and Number of Living Children)

4.4.1 Socio-demographic characteristics and Fertility Desire

Chi-square test was performed with fertility desire and other covariates. As shown in Table 4.2 below out of the nine independent variables used in the analysis, seven of them were significant namely religion, working status, age, ever used any method, residence, knowledge of any method and educational attainment. Inter-spousal communication and wealth index was not significant.

The study found that educational attainment was a significant factor influencing fertility desire ($\chi^2 = 20.6768$, $Pr = 0.000$). Approximately 87 percent of married women with no formal education declared they wanted another child while the remaining 13.14 want no more children. Married women with primary education who wanted another were 89.19 percent while those who wanted no more were 10.81 percent. Married women with secondary education who wanted another were 91.08 percent while those who wanted no more were 8.92 percent. Married women with post secondary education who wanted another were 87.80 percent while those who wanted no more were 12.20 percent. The analysis indicates that current working status of the women was a significant factor affecting fertility desire

($\chi^2=39.0641$, $P=0.000$). Out of the women that were surveyed, 90.13 percent of the married women not currently working preferred to have another while 9.87 percent preferred not to have another. Married women who are currently working, 85.86 percent preferred to have another while 14.14 percent of currently working women were not intended to have another child.

Ever used any method was also a significant factor influencing fertility desire ($\chi^2=28.9094$, $P=0.000$). The results of the bivariate analysis of fertility desire and ever used any method indicated that among those who wanted another child, 88.15 percent were not using any method of contraception while 11.85 percent did not want another child. Those who reported that they were using any contraceptives were 80.19 percent and wanted another child while 19.81 percent did not want another child. The analysis shows that inter spousal communication was not a significant factor influencing fertility desire ($\chi^2= 0.3802$, $P=0.827$). Decisions made by only the respondent who wanted another child were 73.08 percent while those who wanted no more were 26.92 percent. Those whose decisions were based on their husband alone and wanted another child were 69.44 percent while those who wanted no more children were 30.56 percent. Those whose decisions were based on both partners and wanted another child were 69.17 percent while those who wanted no more children were 30.83 percent.

Residence was a significant factor to fertility desire ($\chi^2= 4.1129$, $P=0.043$). Majority, (88.11 %) of the women from the rural area indicated they wanted another child while 11.89% wanted no more children. Married women from urban areas who wanted another were 86.52 percent while 13.48 percent wanted no more children. Religion was another significant factor affecting fertility desire ($\chi^2=20.8875$, $P=0.000$). Most (88.15%) of the Muslim women wanted another while 11.85% wanted no more. Among the Traditionalist, 84.34 percent and 15.66 percent claimed they wanted more and no more children. The

Christians had 82.04 percent saying they want another child and 17.96 percent saying they wanted no more children.

Age was a significant factor to fertility desire ($\chi^2=1700$, $Pr=0.000$). Married women in the age group 25-34 had the highest demand for another child (96.96%). Age group 35+ had the lowest demand for children (67.10%). Knowledge of any method was another significant factor influencing fertility desire ($\chi^2=8.5226$, $Pr = 0.036$). Married women who knew only traditional method had the highest demand for another child (92.54%). Those who knew only folkloric method and wanted another child were 80.89% which was quite the lowest compared to the rest.

Wealth index was not a significant factor to fertility desire ($\chi^2= 3.5138$, $Pr = 0.173$). Approximately 89 percent of the married women with middle index declared that they wanted another child while 10.88 percent wanted no more children. Married women who were poor followed closely to those who were at the middle index with 87.58 percent while 12.42 percent wanted no more. At the rich category (87.05%) wanted another and 12.95 percent wanted no more.

4.3.2 Socio-demographic Characteristics and Total Children Ever Born

The study found that educational attainment was significantly related to total children ever born ($\chi^2=546.1049$, $Pr=0.000$). Approximately 53 percent of married women with no formal education declared that they had less than 5 children ever born while 46.56 percent had more than 5 children ever born. Married women with primary education who had less than 5 children were 62.94 percent while those who had 5 and above total of children ever born were 37.06 percent. Married women with secondary education who had less than 5 children were 86.81 percent while those who had 5 and above children were 13.19 percent.

Married women with post secondary education who had less than 5 children were 77.56 percent while those who had more than 4 children were 22.44 percent.

The analysis indicated that current working status of women was a significant factor affecting total children ever born ($\chi^2=536.5800$, $Pr = 0.000$). Out of the women that were surveyed, 73.08 percent of the married women were not currently working and had less than 5 children while 26.92 percent had 5 children and above. Among married women who were currently working, 49.49 percent had less than 5 children while 50.51 percent of currently working women had 5 children and above. Ever used any method was also a significant factor influencing total children ever born ($\chi^2= 4.9393$, $Pr = 0.026$). The results of the chi-square test between total children ever born and ever used any method indicated that among those who had less than 5 children, 59.31 percent were not using any method of contraception while 40.69 percent had 5 children and above. Those who reported using any contraceptive method were 64.23 percent and had less than 5 children while 35.77 percent had 5 and above children.

The analysis showed that inter spousal communication was significantly related to total children ever born ($\chi^2= 7.5177$, $Pr = 0.023$). Decisions based on the respondent alone and had less than 5 children were 44.87 percent while those who had 5 children and above were 55.13 percent. Husbands who made the decisions alone and had less than 5 children were 61.11 percent while those who had 5 children and above ever born were 38.89 percent. Those whose decisions were combined and who had less than 5 children were 63.91 percent while those who had 5 and above children ever born were 36.09 percent.

Residence was a significant factor to total children ever born ($\chi^2= 45.8328$, $Pr = 0.000$). Women from the urban area (65.55%) had less than 5 children ever born while 34.45% had 5 children and above. Married women who resided in rural areas and had less than 5 children were 57.65 percent while 42.35 percent had 5 children and above. Religion

was another significant factor affecting total children ever born ($\chi^2=96.3254$, Pr = 0.000). Most (78.32 %) Christian women had less than 5 children ever born while 21.68 percent had 5 children ever born and above. Muslims followed with 58.29% women and had less than 5 children ever born while the remaining 41.71% had 5 children ever born and above. 57.83 percent of Traditionalists had less than 5 children while 42.17 percent had 5 children ever born and above.

Age was a significant factor to total children ever born ($\chi^2= 4700$, Pr = 0.000). Married women in the age group 15-24 had the highest total children ever born at 99.41 for less than 5 children. Age group 35+ had the lowest number of married women saying they had less than 5 children at 16.40%. Knowledge of any method was another significant factor influencing fertility desire ($\chi^2=79.4570$, Pr = 0.000). Married women who knew only folkloric method had the highest percent of children ever born at 5 children and above (53.50%). Those who knew only traditional method had the lowest percent of children ever born (31.34%) at 5 children and above.

Wealth index was also significant to fertility desire ($\chi^2= 127.9260$, Pr = 0.000). Approximately 44 percent of the married women at the poor category declared that they had 5 children ever while 55.80 percent had less than 5 children ever born. Married women who were at the middle category followed closely to those who were at the poor category with 36.59 percent while 63.41 percent had less than 5 children ever born. At the rich category (29.80%) had more than 4 children ever born and 70.20 percent had less than 5 children ever born.

4.3.3 Socio-demographic characteristics and Number of Living Children

The study found that age group was a significant factor to number of living children ($\chi^2= 3400$, Pr = 0.000). Age group 35+ had the highest percent of married women saying

(65.54%) saying they had 5 children and above. Married women in the age group 15-24 had the lowest percent of living children at 0.23% for 5 children ever born and above. Educational attainment was another significant factor related to number of living children ($\chi^2=249.0985$, $Pr = 0.000$). Approximately 68 percent of married women with no formal education declared that they had less than 5 children living while 32.41 percent had 5 children and above living. Married women with primary education who had less than 5 children were 70.90 percent while those who had 5 children and above were 29.10 percent. Married women with secondary education who had less than 5 children were 88.72 percent while those who had 5 children and above were 11.28 percent. Married women with post secondary education who had more than 4 living children were 19.51 percent while those who had less than 5 living children were 80.49 percent.

The analysis indicates that current working status of the women was a significant factor affecting number of living children ($\chi^2= 371.7556$ $Pr = 0.000$). Out of the women that were surveyed, 81.54 percent of the married women were not currently working and had less than 5 children while 18.46 percent had 5 living children and above. Married women who were currently working (63.41%) had less than 5 living children while 36.59 percent of the currently working women had 5 children and above. Ever used any method was not a significant factor influencing number of living children ($\chi^2= 0.0125$, $Pr = 0.911$). The results of the chi-square test between number of living children and ever used any contraceptive method indicated that among those who had less than 5 children, 71.12 percent were not using any method of contraception while 28.88 percent had 5 children and above. Those who were using any contraceptive method, 71.35 percent had less than 5 children while 28.65 percent had 5 children and above.

The analysis shows that inter-spousal communication was not a significant factor influencing number of living children ($\chi^2= 2.8310$ $Pr = 0.243$). Decisions made by only the

respondent who had less than 5 children were 57.69 percent while those who had 5 children and above were 42.31 percent. Those whose husband made the decision only and had less than 5 children were 69.44 percent while those who had 5 children and above living were 30.56 percent. For those whose decisions were made by both partners and who had less than 5 children were 68.42 percent while those who had more 5 children living were 31.58 percent.

Residence was not a significant factor to number of living children ($\chi^2 = 1.6813$, $Pr = 0.195$). Majority, (72.19 %) of the women from the urban areas had less than 5 living children while 27.81 % had 5 living children and above. Married women residing in the rural area and had less than 5 children were 70.79 percent while 29.21 percent had more than 4 living children. Religion was another significant factor affecting number of living children ($\chi^2 = 35.0511$, $Pr = 0.000$). Most (81.39 %) of Christians women had less than 5 living children while 18.61 had 5 living children and above. Muslims followed with 70.47% women who had less than 5 living children while the remaining 29.53 % had 5 children and above. Traditionalists who had less than 5 living children were 65.06 percent while 34.94 percent had 5 living children and above.

Table 4.2: Distribution of women by selected Socio-demographic Characteristics and Fertility Desire in North-west, Nigeria

Variables	Fertility Desire		
	Want another	No more	Total
Mother's Education			
No formal Education	6,076 (86.86%)	919 (13.14%)	6,995 (100%)
Primary	941 (89.19%)	114 (10.81%)	1,055 (100%)
Secondary	1,195 (91.08%)	117 (8.92%)	1,312(100%)
Post secondary education	180 (87.80%)	25 (12.20%)	205(100%)
Total	8,392 (87.72%)	1,175 (12.28%)	9,567 (100%)
Pearson $\chi^2=20.6768$	Pr = 0.000		
Age			
15-24	3,439 (96.93%)	109 (3.07%)	3,548 (100%)

25-34	2,969 (96.96%)	93 (3.04%)	3,062 (100%)
35+	1,984 (67.10%)	973 (32.90%)	2,957(100%)
Total	8,392 (87.72%)	1,175(12.28%)	9,567(100%)
Pearson chi2= 1700	Pr = 0.000		
Place of residence			
Urban	2,022 (86.52%)	315 (13.48%)	2,337 (100%)
Rural	6,370 (88.11%)	860 (11.89%)	7,230 (100%)
Total	8,392 (87.72%)	1,175 (12.28%)	9,567(100%)
Pearson chi2=4.1129	Pr = 0.043		
Religion			
Christian	507 (82.04%)	111 (17.96%)	618 (100%)
Islam	7,815 (88.15%)	1,051(11.85%)	8,866 (100%)
Traditionalist	70 (84.34%)	13(15.66)	83 (100%)
Total	8,392 (87.72%)	1,175 (12.28%)	9,567(100%)
Pearson chi2= 20.8875	Pr = 0.000		
Working status			
Not working	3,633 (90.13%)	398 (9.87%)	4,031 (100%)
Working	4,707 (85.86%)	775 (14.14%)	5,482 (100%)
Total	8,340 (87.67%)	1,173(12.33%)	9,513 (100%)
Pearson chi2 = 39.0641	Pr = 0.000		
Ever used contraceptives			
No	7,975 (88.15%)	1,072 (11.85%)	9,047 (100%)
Yes	417 (80.19%)	103 (19.81 %)	520 (100%)
Total	8,392 (87.72%)	1,175 (12.28%)	9,567 (100%)
Pearson chi2= 28.9094	Pr = 0.000		
Inter-spousal communication			
Mainly women	57 (73.08%)	21 (26.92%)	78 (100%)
Mainly husband	25 (69.44%)	11(30.56%)	36 (100%)
Joint decision	92 (69.17%)	41 (30.83%)	133 (100%)
Total	174 (70.45%)	73 (29.55%)	247 (100%)
Pearson chi2= 0.3802	Pr =0.827		
Wealth index			
Poor	5,576 (87.58%)	791 (12.42 %)	6,367 (100%)
Middle	1,303 (89.12%)	159 (10.88%)	1,462 (100%)
Rich	1,513 (87.05%)	225 (12.95 %)	1,738 (100%)
Total	8,392 (87.72%)	1,175 (12.28%)	9,567 (100%)
Pearson chi2 = 3.5138	Pr = 0.173		
Ever heard of contraceptive			
No method	1,902(88.10%)	257(11.90%)	2,159 (100%)
Folkloric method	127 (80.89%)	30 (19.11%)	157 (100%)
Traditional method	62 (92.54%)	5 (7.46 %)	67 (100%)
Modern method	6,301 (87.71%)	883 (12.29%)	7,184 (100%)
Total	8,392 (87.72%)	1,175 (12.28%)	9,567 (100%)
Pearson chi2= 8.5226	Pr = 0.036		

Source: Author's Work, 2016 (Data from 2013 NDHS)

Table 4.2.2: Distribution of women by selected Socio-demographic Characteristics and Total Children Ever Born in North-west, Nigeria

Variables	Total Children Ever Born		
	Less than 5	5 and above	Total
Mother's Education			
No formal education	3,738 (53.44%)	3,257(46.56%)	6,995 (100%)
Primary	664(62.94%)	391 (37.06%)	1,055 (100%)
Secondary	1,139(86.81%)	173 (13.19%)	1,312 (100%)
Post secondary education	159(77.56%)	46 (22.44%)	205 (100%)
Total	5,700(59.58%)	3,867 (40.42%)	9,567 (100%)
Pearson chi2=546.1049	Pr = 0.000		
Age			
15-24	3,527 (99.41%)	21 (0.59%)	3,548(100%)
25-34	1,688 (55.13 %)	1,374 (44.87%)	3,062(100%)
35+	485 (16.40 %)	2,472 (83.60%)	2,957(100%)
Total	5,700 (59.58%)	3,867 (40.42%)	9,567(100%)
Pearson chi2= 4700	Pr = 0.000		
Place of residence			
Urban	1,532 (65.55%)	805 (34.45%)	2,337(100%)
Rural	4,168 (57.65 %)	3,062 (42.35%)	7,230(100%)
Total	5,700 (59.58%)	3,867 (40.42%)	9,567 (100%)
Pearson chi2=45.8328	Pr = 0.000		
Religion			
Christian	484 (78.32 %)	134 (21.68%)	618 (100%)
Islam	5,168 (58.29%)	3,698 (41.71%)	8,866 (100%)
Traditionalist	48 (57.83%)	35 (42.17%)	83 (100%)
Total	5,700 (59.58%)	3,867 (40.42%)	9,567 (100%)
Pearson chi2= 96.3254	Pr = 0.000		
Working status			
Not working	2,946 (73.08 %)	1,085 (26.92%)	4,031 (100%)
Working	2,713 (49.49%)	2,769 (50.51%)	5,482(100%)
Total	5,659 (59.49%)	3,854 (40.51%)	9,513 (100%)
Pearson chi2 = 536.5800	Pr = 0.000		
Ever used contraceptives			
No	5,366 (59.31%)	3,681 (40.69%)	9,047 (100%)
Yes	334 (64.23%)	186 (35.77%)	520 (100%)
Total	5,700 (59.58%)	3,867 (40.42%)	9,567 (100%)
Pearson chi2= 4.9393	Pr = 0.026		
Inter-spousal communication			
Mainly women	35 (44.87%)	43 (55.13%)	78 (100%)
Mainly husband	22 (61.11%)	14 (38.89%)	36 (100%)
Joint decision	85 (63.91%)	48 (36.09%)	133 (100%)
Wealth index			
Poor	3,553(55.80 %)	2,814 (44.20%)	6,367 (100%)

Middle	927 (63.41 %)	535 (36.59%)	1,462 (100%)
Rich	1,220 (70.20%)	518 (29.80%)	1,738 (100%)
Total	5,700 (59.58%)	3,867 (40.42%)	9,567 (100%)
Pearson chi2 = 127.9260	Pr = 0.000		
Ever heard of contraceptive			
No method	1,452 (67.25%)	707 (32.75%)	2,159 (100%)
Folkloric method	73 (46.50%)	84 (53.50%)	157 (100%)
Traditional method	46 (68.66%)	21 (31.34%)	67 (100%)
Modern method	4,129 (57.47 %)	3,055 (42.53%)	7,184 (100%)
Total	5,700 (59.58%)	3,867 (40.42%)	9,567 (100%)
Pearson chi2= 79.4570	Pr = 0.000		

Source: Author's Work, 2016 (Data from 2013 NDHS)

Table 4.2.3: Distribution of women by selected Socio-demographic characteristics and Number of Living Children in North-west, Nigeria

Variables	Number of Living Children		
	Less than 5	5 and above	Total
Mother's Education			
No formal education	4,728 (67.59%)	2,267 (32.41%)	6,995 (100%)
Primary	748 (70.90%)	307 (29.10%)	1,055 (100%)
Secondary	1,164 (88.72%)	148 (11.28%)	1,312 (100%)
Post secondary education	165 (80.49%)	40 (19.51%)	205 (100%)
Total	6,805 (71.13%)	2,762 (28.87%)	9,567 (100%)
Pearson chi2= 249.0985	Pr = 0.000		
Age			
15-24	3,540 (99.77%)	8 (0.23%)	3,548 (100%)
25-34	2,246 (73.35%)	816 (26.65%)	3,062 (100%)
35+	1,019 (34.46%)	1,938 (65.54%)	2,957 (100%)
Total	6,805 (71.13%)	2,762 (28.87%)	9,567 (100%)
Pearson chi2= 3400	Pr = 0.000		
Place of residence			
Urban	1,687 (72.19%)	650 (27.81%)	2,337 (100%)
Rural	5,118 (70.79%)	2,112 (29.21%)	7,230 (100%)
Total	6,805 (71.13%)	2,762 (28.87%)	9,567(100%)
Pearson chi2=1.6813	Pr = 0.195		
Religion			
Christian	503 (81.39%)	115 (18.61%)	618(100%)
Islam	6,248 (70.47%)	2,618 (29.53%)	8,866 (100%)
Traditionalist	54 (65.06%)	29 (34.94%)	83(100%)
Total	6,805 (71.13%)	2,762 (28.87%)	9,567(100%)
Pearson chi2= 35.0511	Pr = 0.000		
Working status			

Not working	3,287 (81.54%)	744 (18.46 %)	4,031(100%)
working	3,476 (63.41%)	2,006 (36.59%)	5,482 (100%)
Total	6,763 (71.09%)	2,750 (28.91%)	9,513 (100%)
Pearson chi2 = 371.7556	Pr = 0.000		
Ever used contraceptives			
No	6,434 (71.12%)	2,613 (28.88%)	9,047 (100%)
Yes	371 (71.35%)	149 (28.65%)	520 (100%)
Total	6,805 (71.13%)	2,762 (28.87%)	9,567 (100%)
Pearson chi2= 0.0125	Pr = 0.911		
Inter-spousal communication			
Mainly women	45 (57.69%)	33 (42.31%)	78 (100%)
Mainly husband	25 (69.44%)	11 (30.56%)	36 (100%)
Joint decision	91 (68.42%)	42 (31.58 %)	133 (100%)
Wealth index			
Poor	4,459 (70.03%)	1,908 (29.97%)	6,367 (100%)
Middle	1,050 (71.82%)	412 (28.18)	1,462 (100%)
Rich	1,296 (74.57%)	442 (25.43%)	1,738 (100%)
Total	6,805 (71.13%)	2,762 (28.87%)	9,567 (100%)
Pearson chi2 = 14.0762	Pr = 0.001		
Ever heard of contraceptive			
No method	1,680 (77.81%)	479 (22.19 %)	2,159 (100%)
Folkloric method	100 (63.69%)	57 (36.31%)	157 (100%)
Traditional method	51 (76.12 %)	16 (23.88%)	67 (100%)
Modern method	4,974 (69.24%)	2,210 (30.76%)	7,184 (100%)
Total	6,805 (71.13%)	2,762 (28.87%)	9,567 (100%)
Pearson chi2= 64.5408	Pr = 0.000		

Source: Author's Work, 2016 (Data from 2013 NDHS)

4.5 FACTORS INFLUENCING FERTILITY BEHAVIOUR

The dependent variables, fertility desire, number of living children and children ever born are dichotomous; a binary logistic regression model was used to examine factors found to significantly influence it. Table 4.3 below indicated that out of the seven variables entered into the binary logistic regression model, one variable was significantly associated with fertility desire. The factor was education. Place of residence, current working status, wealth index, religion, inter-spousal communication and education were not significantly related to fertility desire. The logistic regression result in the table below revealed that mother's

education contributed to the likely fertility desire among currently married women in north-west, Nigeria. Taking no formal education as the reference category (1.00), those with primary education are less likely than those with no formal education category to desire another child (O.R=0.32, $p>0.05$). Also, those with secondary and higher education were less likely than the reference category to desire for another child with odds ratio and p-value as (O.R=0.60, $p>0.05$ and O.R=0.51, $p>0.05$) respectively.

Place of residence was not a contributing factor to fertility desire. Taking urban residence as the reference category, respondents in the rural area were more likely than the reference category to want another child (O.R=1.97, $p>0.05$). The logistic regression analysis revealed that religion did not contribute to the likelihood of wanting another child. Taking Christians as the reference category (1.00), the Muslims were more likely than the Christians to desire another child (O.R=1.81, $p=0.172$).

The working status was another insignificant factor influencing fertility desire. The respondents who were working were less likely than the reference category (not working) to desire another child with O.R as 0.48 and $p<0.05$ (i.e 0.166).

Inter-spousal communication was not contributing to the likelihood of wanting another child. Those whose husband made the decision alone were less likely than the reference category (mainly women) to influence fertility desire (O.R= 0.75, $p= 0.600$). For those whose decisions were combined, they were less likely than the reference category to influence fertility desire with odds ratio 0.78 and the p-value 0.545.

Age did not contribute to the likelihood of fertility desire. Those at the age group 25-34 years were more than 100% less likely than the reference category (age group 15-24 years) to desire another child with O.R as 0.000000387 and p-value 0.985. Age group 35+ was also less likely than the reference category to desire another child with O.R as 0.0000000366 and p-value 0.983.

Wealth index was another insignificant factor influencing fertility desire. Those at the middle category were more likely than the reference category to desire another child (O.R= 1.07, p-value= 0.908). For those at the rich category, they were more likely than the reference category influence fertility desire (O.R= 1.94, P-value= 0.345).

Table 4.3: Binary Logistic regression confidence interval, significance and odds ratio for currently married women Fertility Desire

Variables	Odds Ratio	P>z	[95% Conf. Interval]
Age			
15-24	(R.C)	-	-
25-34	0.000000387	0.985	0 .
35+	0.0000000366	0.983	0 .
Residence			
Urban	(R.C)	-	-
Rural	1.97	0.209	0.68 5.67
Religion			
Christian	(R.C)	-	-
Islam	1.81	0.172	0.77 4.26
Education			
No formal education	(R.C)	-	-
Primary	0.32	0.045*	0.10 0.97
Secondary	0.60	0.392	0.19 1.92
Post secondary	0.51	0.339	0.13 2.01
Working status			
Not working	(R.C)	-	-
Working	0.48	0.166	0.17 1.36
Inter-spousal communication			
Mainly women	(R.C)	-	-
Mainly husband	0.75	0.600	0.25 2.23
Joint decision	0.78	0.545	0.35 1.75
Wealth index			
Poor	(R.C)	-	-
Middle	1.07	0.908	0.33 3.47
Rich	1.94	0.345	0.49 7.63

Source: Author's Work, 2016 (Data from 2013 NDHS)

Significant at P< 0.001 ***, P<0.01 **, P<0.05 *. RC- Reference Category

Table 4.3.2 below indicates that out of the seven variables entered into the binary logistic regression model, three variables were significantly associated with total children ever born. The factors are education, age and religion. Inter-spousal communication, place of

residence, wealth index and working status were not significantly associated with total number of children ever born.

The logistic regression result in the table below revealed that mother's education contributed to the likelihood of total children ever born among currently married women in north-west, Nigeria. Taking no formal education as the reference category (1.00), those with primary education are less likely than those in the no education category to have 5 children and above (O.R=0.56, p=0.302). Also, those with secondary and post secondary education were less likely than the reference category to have 5 children and above with odds ratio and p-value as (O.R=0.17, p=0.002 and O.R=0.32, p=0.094) respectively.

Place of residence was not a contributing factor to total number of children ever born. Respondents in the rural area are more likely than those in the reference category (urban area) to have 5 children and above (O.R=1.33, p=0.584). The logistic regression analysis revealed that religion did contribute to the likelihood of total children ever born. Taking Christians as the reference category (1.00), the Muslims were more likely to have 5 children and above ever born with the odds ratio as 2.77 and p-value as 0.016.

Working status was not significantly influencing total number of children ever born. The respondents who were working were more likely than the reference category (not working) to have 5 children and above with O.R as 2.13 and p= 0.102.

Inter-spousal communication proved to be an insignificant factor to the total number of children ever born. Husbands who made the decisions alone were less likely than the reference category to influence total children ever born (O.R= 0.41, p= 0.087). For those whose decisions were consensual, they were less likely than the reference category to influence total number of children ever born with odds ratio as 0.75 and the p-value as 0.482.

Age contributed to the likelihood of total number of children ever born. Those at the age group 25-34 years were more likely than the reference category (age group 15-24 years)

to have more than 4 total numbers of children ever born with O.R as 45.55 and p-value 0.001. Age group 35+ was also more likely than the reference category to more than 4 total number of children ever born with O.R as 226.69 and p-value 0.000.

Wealth index was another insignificant factor influencing total number of children ever born. Those at the middle category were less likely than the reference category to have 5 children and above ever born (O.R= 0.88, p-value= 0.834). For those at the rich category, they were less likely than the reference category to influence total number of children ever born (O.R= 0.55, P-value= 0.360).

Table 4.3.2: Binary Logistic regression confidence interval, significance and odds ratio for currently married women Total Children Ever Born

Variables	Odds Ratio	P>z	[95% Conf. Interval]
Age			
15-24	(R.C)	-	-
25-34	45.55	0.001***	5.20 398.62
35+	226.69	0.000***	24.91 2063.14
Residence			
Urban	(R.C)	-	-
Rural	1.33	0.584	0.48 3.66
Religion			
Christian	(R.C)	-	-
Islam	2.77	0.016*	1.21 6.36
Education			
No formal education	(R.C)	-	-
Primary	0.56	0.302	0.19 1.68
Secondary	0.17	0.002*	0.054 0.53
Post secondary	0.32	0.094	0.085 1.22
Working status			
Not working	(R.C)	-	-
Working	2.13	0.102	0.86 5.29
Inter-spousal communication			
Mainly women	(R.C)	-	-
Mainly husband	0.41	0.087	0.15 1.14
Wealth index			
Poor	(R.C)	-	-
Middle	0.88	0.834	0.28 2.81
Rich	0.55	0.360	0.15 1.99

Source: Author's work, 2016 (Data from 2013 NDHS)

Significant at $P < 0.001$ *, $P < 0.01$ **, $P < 0.05$ *. RC- Reference Category**

Table 4.3.3 below indicates that out of the seven variables entered into the binary logistic regression model; only one variable was significantly associated with number of living children. The factor was age. Religion, education, place of residence, wealth index, working status and inter-spousal communication were not significantly associated with the number of living children.

The logistic regression result in the table below revealed that mother's education did not contribute to the likelihood of number of living children in North-west, Nigeria. For those with primary education, they were more likely than the reference category to have more than 4 living children (O.R=1.25, $p=0.645$). Also, those with secondary and post secondary education were less likely than the reference category to have more than 4 living children with odds ratio and p-value as (O.R=0.38, $p=0.062$ and O.R=0.75, $p=0.639$) respectively.

Place of residence was not a contributing factor to the number of living children. Respondents residing in the rural area were more likely than the reference category to have 5 children and above (O.R=1.85, $p=0.199$).

The logistic regression analysis revealed that religion did not contribute to the likelihood of number of living children. Taking Christians as the reference category, the Muslims were more likely to have 5 children and above living with the odds ratio as 1.70 and p-value as 0.174. Working status was an insignificant factor influencing number of living children. The respondents who were working were more likely than the reference category to have 5 children and above with O.R as 2.21 and $p=0.078$.

Inter-spousal communication was not contributing to the likelihood of having 5 living children and above. Decisions made by respondents alone was the reference category, husbands who made the decisions alone were less likely than the reference category to influence the number of living children (O.R= 0.51, $p=0.177$). For those whose decisions

were mixture of both parties, they were less likely than the reference category to influence number of living children with odds ratio as 0.91 and the p-value as 0.792.

Age contributed to the likelihood of number of living children. Those at the age group 25-34 years were more likely than the reference category (age group 15-24 years) to have more than 4 number of living children with O.R as 15.41 and p-value 0.010. Age group 35+ was also more likely than the reference category to more than 4 number of living children with O.R as 54.14 and p-value 0.000.

Wealth index was another insignificant factor influencing number of living children. Those at the middle category were more likely than the reference category to have 5 living children and above (O.R= 1.47, p-value= 0.457). For those at the rich category, they were more likely than the reference category to influence the number of living children (O.R= 1.17, P-value= 0.795).

Table 4.3.3: Binary Logistic regression confidence interval, significance and odds ratio for currently married women Number of Living Children

Variables	Odds Ratio	P>z	95% Conf. Interval
Age			
15-24	(R.C)	-	-
25-34	15.41	0.010**	1.93 122.70
35+	54.14	0.000***	6.77 432.88
Place of Residence			
Urban	(R.C)	-	-
Rural	1.85	0.199	0.73 4.70
Religion			
Christian	(R.C)	-	-
Islam	1.70	0.174	0.79 3.67
Mother's Education			
No formal education	(R.C)	-	-
Primary	1.25	0.645	0.48 3.29
Secondary	0.38	0.062	0.13 1.05
Post secondary	0.75	0.639	0.22 2.53
Working status			
Not working	(R.C)	-	-
Working	2.21	0.078	0.91 5.33
Inter-spousal communication			

Mainly women	(R.C)	-	-
Mainly husband	0.51	0.177	0.19 1.35
Wealth index			
Poor	(R.C)	-	-
Middle	1.47	0.457	0.53 4.04
Rich	1.17	0.795	0.36 3.75

Source: Author's work, 2016 (Data from 2013 NDHS)

Significant at $P < 0.001$ ***, $P < 0.01$ **, $P < 0.05$ *. RC- Reference Category

4.6 DISCUSSION

Level of education is a determinant of fertility desire among currently married women in North-west, Nigeria. Total number of children ever born is associated with age, religion and level of education. Age is a determinant of the number of living children. As women increase in their level of education, their desire for another child decreases. The more education a woman in the North-west has, the less likely she is to have more than 4 total children ever born. According to Cleland and Wilson (1987) cultural factors such as language, religion, customs and values have been shown to have an impact on fertility behaviours (total children ever born). The age of women in North-west, Nigeria predicted the number of total children ever born and the number of living children. All the above explanations showed the importance of level of education, age and religion on fertility desire, total children ever born and the number of living children.

CHAPTER FIVE

5.1 INTRODUCTION

The main objective of the study was to examine factors that determined the fertility behaviour of married women in North-West, Nigeria. This project attempted to examine the effects of some selected socio-demographic variables on fertility behaviour among currently married women in North-west, Nigeria. This section will be presented in three parts namely summary, conclusion and recommendations.

5.2 SUMMARY OF FINDINGS

The analysis employed both descriptive and inferential statistics and logistic regression methods. Descriptive analysis was used to describe the percentages and number distributions of the respondents by socio-demographic characteristics. Both the classical bi-variate and multivariable analyses were considered to access the determinants of fertility behaviours through controlled variables.

The study found that level of education was positively associated with fertility desire of currently married women in north-west, Nigeria. The more education a woman has the more likely she is to reduce her fertility level. This could be due to working status, use of contraceptives and reproductive health awareness.

Age and religion were also influential factors in the number of total children ever born and living children. The results concluded that younger women were less likely to have more than 4 living children and total children ever born compared to their older counterparts. Religion was found to be a predictor of total children ever born. Women who were Muslims were more likely to have more than 4 total numbers of children ever born.

5.3 Conclusions

The study found evidence of one (1), three (3) and one (1) significant factor influencing fertility desire, total children ever born and number of living children

respectively. The observed fertility desire can be explained within the context of variation in the level of education. Total children ever born can be explained within the context of variation in age, religion and level of education while the number of living children can be explained in the context of age.

5.4 Recommendations

Recommendations for further research

Further studies, both qualitative, quantitative or mix qualitative and quantitative approaches need to be carried out. Qualitative analysis may be a basis for more in-depth research especially on traditional religious systems which operate in a negative way to increase fertility levels (Molnos, 1973) that might lead to a lowering of the overall level of fertility.

Men's status and approval of use of contraceptives should also be researched further as some women tend to make decisions about family planning or even fertility behaviours based on what their male partner's advice.

Recommendations for policy

A programme of intervention targeting fertility desire may achieve its objectives if educational attainment is taken into consideration. Programmes of intervention targeted towards total children ever born and number of living children can be achieved if age, level of education and religion are taken into consideration.

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