

**PREDICTORS OF PREFERRED BIRTH INTERVAL  
AMONG THE MAJOR ETHNIC GROUPS IN NIGERIA**

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**A RESEARCH PROJECT SUBMITTED TO THE DEPARTMENT OF  
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## CERTIFICATION

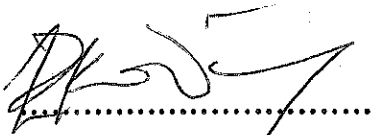
This is to certify that ADEGOKE ADETOLA, of the Department of Demography and Social Statistics, Faculty of Social Sciences, carried out a Research on the Topic **“Predictors of Preferred Birth Interval among Major Ethnic groups in Nigeria”** in partial fulfillment of the award of Bachelor of Science (B.Sc) in Federal University Oye-Ekiti, Nigeria under my Supervision



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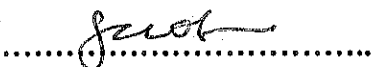
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## **DEDICATION**

The project is dedicated to the giver of Life, the one whose Grace has been sufficient for me from the beginning of my academic years to the end, the giver of Peace, the Almighty God and to my guardian; Mr and Mrs Igbenabor.

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## **Abstract**

Birth spacing is one of the major aspects of reproductive health which may contribute to the reduction or increase or decrease in maternal related issues. Several researches conducted on birth spacing have shown that close birth interval has many implications on mothers, children and entire family. It was noticed that adequate attention have not be given to preferred birth intervals among major ethnic groups in Nigeria, thus, not giving adequate and enough facts on the cause of a particular preferred birth interval. Therefore, this study assessed the preferred birth interval between individual characteristics of women ages 15 to 49.

This study used the quantitative method for data analysis. The data was extracted from the 2013 Nigeria Demographic and Health survey data set (individual recode), the weighted sample size was 27274 women.

The univariate result showed that the majority of the individuals spaced their birth for at least 2 years. At the bivariate level, it was revealed that there was a significant relationship between preferred birth interval and ethnicity which also extend to women characteristics, except number of living children and Occupation. It also revealed that the Yoruba ethnic group space their birth for at least 2 years than any other ethnic group. The multivariate result reveled that many characteristics of women such as age religion, religion amongst others were significantly associated with their preferred birth interval. Also, it was seen that Yoruba and Igbo are more likely to space their birth for two years compared to the Hausa/Fulani's.

The study therefore concludes that birth interval varies among major ethnic groups in Nigeria which are caused by cultural differences and there is need for government advocacy on birth spacing among ethnic groups.

**Keywords:** Ethnicity, Birth spacing, preferred birth interval, Reproductive health, Family planning.

## CHAPTER ONE

### INTRODUCTION

#### 1.0 BACKGROUND TO THE STUDY

Birth spacing is one of the major aspects of reproductive health issues all over the world. Several researches that have been conducted on birth spacing have shown that, if births are properly spaced, it has advantages for both the mother and their children. Research has shown that short birth intervals (less than 24 months) are associated with poor health outcomes, especially during infancy. Children born too soon after a previous birth, especially if the interval between the births is less than two years, have an increased risk of sickness and death at an early age. Longer birth intervals (more than two years), on the other hand, contribute to improved health status of the mother and that of the child (National Population Commission (NPC) & ICF International, 2014). According to UNICEF (United Nations International Children's Emergency Fund 2015), an estimated 5.9 million children aged less than five years die yearly, with 99 percent of the deaths occurring in developing countries. Evidence showing a relationship between shorter birth intervals and high infant and child mortality has been established globally (Rutstein, 2003). In addition, extant evidence shows that closely spaced pregnancies are linked to low birth weight, intrauterine growth retardation, preterm delivery (Zhu, 2005).

The interval between births is consequential for a woman's health, a woman's body needs to rest following pregnancy. After the birth of a baby, it is medically good to wait at least for 2 years before another to maintain the best health for the mother and her child. The two years rest period is called "birth spacing". When the time between pregnancies is less than two years, her body may not be ready to have a healthy baby. If additional children are desired after a child is born, it is healthier for the mother and the child to wait at least two years after the previous birth before

attempting to conceive (but not more than 5 years), after a miscarriage or abortion, it is healthier to wait at least 6 months (USAID, 2008). About 99% of maternal deaths occur in developing countries; more than half occur in sub-Saharan Africa and almost one third in South Asia. Also, approximately 830 women die from preventable causes related to pregnancy and childbirth every day. (WHO, 2015), and many of these deaths result from causes associated with short birth interval. (WHO 2015)

## **1.1 STATEMENT OF PROBLEM**

Nigeria is a country with different ethnic groups and it is classified in different forms. The three major ethnic groups in Nigeria are Hausa/Fulani, Igbo and Yoruba. Among all ethnic groups, Women who are yet to meet their ideal sex preferences have a shorter birth interval, the effect of sex of prior birth on the birth interval is slightly significant among the Igbo and the southern minorities, who tend to desire to have a male child sooner if preceding births were females (Fayehun, omololu & Isiugo-Abanihe, 2011)

In Nigeria, there are regional disparities in birth interval among women of reproductive age (15-49 years); there is a 7 - month difference between women in the south west, who has the longest best interval and those in the south east who has the shorter birth interval (34.7 months and 27.7 month respectively) (NPC & ICF International, 2014). Several researches conducted on birth spacing among women in Nigeria showed that, the interval between births varies from one ethnic group to another. In the south eastern part of Nigeria, which are predominantly the Igbos are seen to have shorter birth intervals when their preceding births are female, they tend to give birth sooner in the name of giving birth to an heir (a male son). Also, in the northern part of the

country, women tend to closely space their birth, they believe in giving birth to many children so as to work on their farmland, also because of the early marriage.

Spacing may also affect parents' investments in their children. A researcher named "Price" he said that parents spend significantly more time with first-born than second-born children, and this translates into less time spent reading to the younger child and lower reading test scores (Price, 2008). When birth are not properly spaced, the children on ground won't have attention from their parents, thus make them misbehave.

Also, inadequate timing of birth tends to drop the rate at which women contribute to the nation's GDP, not all occupations grant birth leave for women to nurse babies all the time, they either choose between their jobs or childbearing, and this will in turn bounce back on men to work extra hard to fend for the family

## **1.2 RESEARCH QUESTION**

- What is the preferred birth interval among women in the major ethnic group?
- What is the relationship between preferred birth interval and ethnic group of the study population?
- To what extent do the socio demographic characteristics [age, wealth index, educational level, exposure to media, heard of family planning on media, religion, place of residence, occupation, number of living children, Current contraceptive methods use] of the study population influence the relationship between preferred birth interval and ethnic group?

## **1.3 RESEARCH OBJECTIVES**

The general objective of this study is to assess birth spacing by major ethnic groups in Nigeria

Specific objectives include the following

- To ascertain the preferred birth interval among women in the major ethnic groups
- To investigate the relationship between preferred birth interval and ethnic groups of the study population
- To examine the extent to which socio demographic characteristics of the study population influence the relationship between preferred birth interval and Ethnicity.

#### **1.4 JUSTIFICATION OF THE STUDY**

There are several works on birth spacing in Nigeria but most of the works fail to look into ethnicity as it affects birth spacing in Nigeria. This study (**Predictors of Preferred birth interval among major Ethnic groups in Nigeria**) is of theoretical relevance because it will add more to the existing study on ethnicity and birth spacing in Nigeria and also the general study of reproductive health. This research work will also enable more researchers keen on knowing the variation of birth spacing among major ethnic group in Nigeria. To know and have knowledge on why one of the ethnic groups space birth than the other and also Factors that influence such actions.

It was noticed while gathering information about this topic that, few studies had been conducted on ethnicity and birth spacing although there is no direct relationship between them but this study will add to existing literature and give more direction to the topic.

This study will help policy makers decide and implement policies that will enable ethnic groups in the country to adequately space their birth, and this will in turn help reduce High Total Fertility Rate of some ethnic group.

## 1.5 DEFINITION OF TERMS

- **Birth Spacing:** it was used interchangeably with birth interval. It is defined as the period of time between two successive live births (NDHS, 2013).
- **Reproductive Health:** is defined as a state of complete physical, mental and social well-being in all matters relating to the reproductive system.
- **Family Planning:** is defined as the practice of controlling the number of children in a family and the intervals between their births, particularly by means of artificial contraception or voluntary sterilization.
- **Infant Mortality:** is defined as the death that occurs before a baby reaches his or her first birthday.
- **Maternal Mortality:** according to WHO, it is "the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes."
- **Ethnicity:** it was used interchangeable with ethnic group. It is a category of people who identify with each other based on similarities such as common ancestry, language, history, society, culture or nation.

Summarily, this chapter focused on the background introduction of the topic, the reasons why the topic was considered as a problem, the study objectives and research questions. This chapter also includes the justification for carrying out this study and the operational definition of terms used in the study so as to avoid misconception. This chapter only gave an overview of the topic, but the next chapter will give detailed information on the study through the review of related literatures.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.0 INTRODUCTION**

In this chapter, different relevant literatures are identified and reviewed. The chapter is divided into the following sections:

1. Birth interval: overview- associated factors and consequences.
2. Ethnicity differentials and birth spacing in Nigeria.
3. Ethnicity and other related reproductive health issues.

Also, the chapter covers the hypothesis and conceptual framework for the study

#### **2.1 BIRTH INTERVAL: OVERVIEW**

##### **2.1.1 OVERVIEW OF FACTORS ASSOCIATED WITH BIRTH INTERVALS**

Globally, studies have examined interval between births alongside its determinants and influences on demographic and health behavior and outcome. For instance, a Haitian study concentrated on the factors associated with birth spacing and contraceptive use in Leogane. The study was aimed at determining opportunities to develop culturally sensitive programs to increase contraceptive use and increase birth spacing. The study revealed that 27% of the women had spaced at least one of their births inappropriately in their lifetime whereas 73% spaced all of their births appropriately. Of the variables used in the study, it was found that birth spacing was associated with age, number of people in the household, marital status, employment status, type of housing, and use of modern contraceptives. 552 women were surveyed and only 44% had ever used modern contraceptives to increase the birth interval or prevent pregnancy while 11% used



traditional methods. Local practices, such as post-coitus persil leaf tea, ice water, or salt water were thought to prevent pregnancy. Some women also believed that cold beer after coitus prevents pregnancy. Although many of the women surveyed who used these traditional methods had become pregnant, the practice of these methods continues (Chakhtoura, 2012).

Moitreyee (2010) conducted a study on knowledge, attitudes, and a practice relating to child-spacing methods in assessing current trends in traditional and modern child-spacing methods in Northern Burkina Faso. Its findings showed that time length of individual postpartum sexual abstinence differs between 40 days and 3 years. Durations of amenorrhea were fairly short at between 9 and 11 months. Both demand for modern contraception and contraceptive prevalence less than 1%. The study recommended that the population should be sensitized to the initiative that Islam does not necessarily reject contraception.

Saha, Basak & Banerje (2006) conducted a study on birth intervals and injectable contraception in sub-Saharan Africa. They investigated associations between use of depot-medroxy progesterone acetate and other reversible contraception and short birth intervals in sub-Saharan Africa. Logistic regression was used to explain changes in the proportion of short birth intervals. The result shows that the overall odds ratio for the trend was 0.90. The odds of a short birth interval were reduced by exclusive breastfeeding and increased by use of injectable contraception. Extensive adoption of injectable contraception is associated with greater odds of a short birth interval.

Ngianga-Bakwin & Stones (2005) assessed the association between birth spacing and risk of adverse maternal outcomes in sub-Saharan Africa. The study included a systematic review of 22 observational studies which examined the relationship between inter-pregnancy or birth interval

and adverse maternal outcomes. The results revealed that short intervals are associated with increased risk of uterine rupture and uterus-placental bleeding disorders like placenta previa and placental abruption and also other adverse outcomes such as anemia and maternal death. The study concludes that short inter-pregnancy intervals lead to adverse maternal outcomes.

In the works of Amah, Andrew, Ekwe, Ezeugwu, & Orekyeh's (2015) which focused on the perceptual influence of child spacing campaigns on the knowledge, attitude and practices of rural women in South-East Nigeria. The study revealed that while 88% of the women respondents have knowledge on child spacing practice, inter-spousal communication was important decisions on birth spacing. It further identified the crucial part of the mass media in forming opinions on birth spacing. Child spacing campaigns have increased the awareness and knowledge of the South-East rural women, and also brought about attitudinal changes.

In a cross sectional study conducted in Bayelsa state, which investigated birth spacing practices and its' determinants in a tertiary centre in the state found out that the mean birth interval was 32 months but was lower to Ghana with a median birth interval of 40 months (Abdel, Khalid Yassin & Nagla, 2014). It was revealed that majority of the respondents did not plan to space their children and thus, they did not plan their families. One of the factors acknowledged to be working against birth spacing was re-marriage. Women tend to give birth to their new husbands. 46% of the respondents perceived the ideal family size as four. However, the study failed to consider the effects of the mass media on birth spacing. It also failed to acknowledge men's involvement (Addah, Omietimi&Kotingo, 2015).

An Indian study on birth spacing and its effects on birth weight revealed that the mean birth spacing was 34.8 months among 104 mothers from the Sri Avittom Thirunal Hospital, Thiruvananthapuram. There was a significant difference between the birth weights of infants born to mothers who had a birth interval of less than 28 months and those with more or equal to 29 months. Contraceptive methods were not practiced by 73% of mothers, stressing the potential importance of birth spacing (Jayasudha, Johnsy, Santhi & sundari, 2008).

In a retrospective cross-sectional study carried out in Uruguay, women with inter-pregnancy intervals of 5 months or less had a 250% increased odds of maternal death, a 73% increased odds of third trimester bleeding, a 72% increased odds of premature rupture of membranes, a 33% increased odds of puerperal endometritis, and a 30% increased odds of anemia compared to women with an inter-pregnancy interval of 18 to 23 months. Women with inter-pregnancy intervals longer than 59 months had significantly increased odds of pre eclampsia (83%) and eclampsia (80%) compared to women with an inter-pregnancy interval of 18-23 months (Conde-Agudelo&Belizan, 2000). It was also established that women with very short birth intervals, less than six months, were more likely to experience complications such as bleeding, premature rupture of membranes, and high blood pressure (Razzaque et al, 2005).

An interval of less than six months between pregnancies is associated with the highest risks of adverse outcomes. Under-5 child mortality, low birth weight and infant or child malnutrition are significantly increased with birth-to-pregnancy intervals of less than six months, while an interval of at least two years, but no more than five years, between pregnancies has been linked to improved neonatal morbidity and mortality and associated with the healthiest pregnancies (Conde-Aguedo, 2007).

In a cross-sectional survey conducted in Ghana on knowledge, attitude and practice of birth spacing among Ghanaian mothers, a total number of 200 women attending antenatal and/or postnatal clinics at a hospital in Accra were surveyed. The study revealed that 98% of the respondents had heard about birth spacing. Of the various methods used for birth spacing, the three most used birth spacing methods known by most respondents were pills (83%), followed by the male or female condom (72%) and abstinence (56%). It was also revealed that women who do not properly space their birth (between 1-2 years) affect their nutritional status. Friends and family were seen as contributor to the source of information. It was also revealed that 45% of the respondents knew while 20% practices optimum birth spacing (between 3-5 years). It was found that 34% involves their partner in issues concerning birth spacing, and the reason for this is that, they felt their partner were responsible for the children financially, they are the head of the house and they take the final decisions. 66% do not involve their partner on birth spacing related issues because they were shy and they do not know how to start reproductive health issues with their partners. (Nti, Gadegbeku, Dodoo, Ofori, Akoto & Agbi-Dzorkar, 2014).

## **2.2 ETHNICITY DIFFERENTIALS AND BIRTH SPACING IN NIGERIA**

Collins (2004) recognized the importance of the ethnicity-based classification scheme by showing the relationship between ethnicity and health outcomes through genetic or non-genetic (social, cultural, education and economic) proxy relationships or a union of the two. Culley (2006) noted that the relationship between ethnicity and health outcomes or disease risk is improved by factors such as age, gender and socio-economic status. Furthermore, he stated that the importance of the factors mentioned earlier is determined by context. In other words, it can be said that in as much as ethnic identity is considered to be an important factor determining health outcome, it should not be considered independent of other factors.

Understanding the ethnic values and practices hostile to child survival can be very helpful in increasing the birth spacing in an ethnically diverse setting like Nigeria. Few studies have examined the association between ethnicity and birth spacing in Nigeria. But, similar studies on the influences of ethnic values and practices on birth spacing in Nigeria have been minimal or non-existent. Thus, this study which aims to assess birth spacing among major ethnic groups in Nigeria was designed to fill this gap.

Fayehun, Omololu & Isiugo-Abanihe (2011) conducted a study on sex of preceding child and birth spacing with the objective to understand the pattern of birth spacing among ethnic groups in Nigeria and how the sex of the preceding child affects this pattern. The study further examined the effects of demographic, socioeconomic and socio-cultural factors on birth spacing among Nigerian ethnic groups. The study revealed that level of education, residence and place of work are not significant on birth spacing; while wealth index and type of marital union are reasonably significant. Birth interval was higher in Yoruba ethnic group compared to Hausa and Igbo ethnic groups. It was also identified that if the sex of the first child is female, the minorities in the Yoruba, Igbo and Northern minorities have higher birth interval unlike their southern counterpart who has shorter birth interval. In addition, older women were likely to have higher birth interval, while women who married late were more likely to have shorter birth interval in order to give birth to as many as possible children. Also survival status of the preceding child is a significant predictor of birth interval. Apart from the southern minorities among whom educational attainment, wealth index and type of marriage are significantly associated with birth spacing, the socio-demographic factors have little effect on birth spacing across the ethnic groups. The result of the multivariate analysis revealed that sex preference need and sex of prior births have a weak non-consistent relationship with birth interval among the ethnic groups.

In a study conducted in Nigeria on ethnic differentials in under-five mortality, it was revealed that more than one-third (34.6%) of the children of Hausa/Fulani/ Kanuri tribes were children of birth order 5 or higher as against 16.2% of children of Yoruba tribes. An overwhelmingly high proportion of children of each of the four categories of ethnic groups were born after preceding birth interval of less than 24 months, with the percentage ranging from 96.7% among Yoruba to 98.6% among the Hausa/Fulani/Kanuri tribes. Yoruba ethnic group was seen to have practiced birth spacing more than other ethnic group (Adedini, Odimegwu, Imasiku & Ononokpono. 2015).

### **2.3 ETHNICITY AND OTHER RELATED REPRODUCTIVE HEALTH ISSUES.**

Dzordzomenyoh (2012) in his study on Ethnicity and Contraceptive Use in Ghana: An Analysis from a Gender Perspective found that ethnicity was a predictor of contraceptive use in Ghana, and both males and females belonging to the Ewe ethnic group were more likely to use contraception than the other ethnic groups. While in Kenya, it was found that Kikuyu and Meru men were more likely to use contraceptives compared to Luo and Luhya men (Muvandi, 2003), however the study only examined men's contraceptive use and not that of women. Another Kenyan study on the prevalence and determinants of unintended pregnancies among women in Nairobi found that Luo and Luhya women had a higher likelihood of unintended pregnancy compared to Kikuyu (Ikamiri et al., 2013), which means that these women were potentially not using contraceptives. In addition, another study showed that the differences in contraceptive use of women by ethnic groups was a result of differences in their demographic and socioeconomic characteristics.

A study conducted on contraceptive use in Nigeria, revealed that ethnicity is an imperative factor that forms the behavior pattern; specifically, health-seeking behavior (Obasohan, 2015). The

study's findings revealed that health care utilization, especially contraceptive use for women of reproductive ages, was lower among the Hausa /Fulani/Kanuri/ Seriberi (HFKS) than other ethnic groups (Obasohan, 2015). Related results were seen in another Nigerian study on contraceptive use which revealed that contraceptive use is higher among the Yoruba ethnic group, and lowest amongst women in the Hausa ethnic group (Palamuleni et al., 2013).

A research carried out on ethnic diversity and maternal health care in Nigeria, revealed that ethnic diversity was significantly associated with the use of a health facility for childbirth, the likelihood of health facility birthing was higher among women in high ethnically diverse (heterogeneous) and mixed communities than in women residing in ethnically homogeneous communities. The heterogeneous and mixed communities largely consist of the minority ethnic communities. The study further revealed that the use of a health facility for childbirth was lowest among women residing in ethnically homogeneous communities. These could be communities that are predominantly Hausa/Fulani, Igbo, and Yoruba (Ononokpono, Odimegwu, Adedini, & Imasiku).

A study conducted by Abubakar (2017) on the use of maternal health services (MHS) in **Nigeria** found out that ethnicity and to a lesser extent religion were found to influence the use of MHS with women belonging to Hausa-Fulani. Female autonomy was further reported to be low among the Hausa-Fulani and kanuri/Bari-Bari ethnic groups of Northern Nigeria due to adherence to aged long stereotyping as to what is an ideal woman that was based on ethnic and religious norms, beliefs, traditions and practices which was reported to result in low use of MHS and higher incidence of poor pregnancy outcomes in developing and developed countries.

## **2.4 HYPOTHESIS**

H<sub>0</sub>: There is no significant relationship between ethnicity and birth spacing in Nigeria.

H<sub>1</sub>: There is a significant relationship between ethnicity and birth spacing in Nigeria.

## **2.5 THEORETICAL FRAMEWORK**

This topic can be backed with two theories which are Rational Choice Theory and The Theory of Reasoned Actions.

### **Rational Choice Theory**

Rational choice theory is an umbrella term for variety of models explaining social phenomena as outcomes of individual action that can in some way be constructed as rational. "Rational behavior is suitable for the realization of specific goals, given the limitation imposed by the situation. The key elements of rational choice explanation are individual preferences, beliefs, and constraints. Preferences denote the positive or negative evaluations individuals attach to possible outcomes of their actions. Preferences can have many roots, ranging from culturally transmitted tastes for food or other items, to personal habits and commitments. Beliefs refer to perceived likelihood with which an individual's actions will result in different possible outcomes.

Rational choice is an economic principle that assumes that individuals always make prudent and logical decisions that provide them with the highest amount of personal utility. These decisions provide people with the greatest benefit of satisfaction – given the choices available – and are also in their highest self-interest. Most mainstream academic assumptions and theories are based on rational choice theory.



## **Theory of Reasoned Action**

The Theory of Reasoned Action (ToRA or TRA ) aims to explain the relationship between attitudes and behaviors within human action. It is mainly used to predict how individuals will behave based on their pre-existing attitudes and behavioral intentions. An individual's decision to engage in a particular behavior is based on the outcomes the individual expects will come as a result of performing the behavior. Developed by Martin Fishbein and Icek Ajzen in 1967, the theory derived from previous research in social psychology, persuasion models, and attitude theories. Fishbein's theories suggested a relationship between attitude and behaviors (the A-B relationship). However, critics estimated that attitude theories were not proving to be good indicators of human behavior. The ToRA was later revised and expanded by the two theorists in the following decades to overcome any discrepancies in the A-B relationship with the Theory of Planned Behavior (TPB) and Reasoned Action Approach (RAA). The theory is also used in communication discourse as a theory of understanding.

The primary purpose of the TRA is to understand an individual's voluntary behavior by examining the underlying basic motivation to perform an action. ToRA states that a person's intention to perform a behavior is the main predictor of whether or not they actually perform that behavior. Additionally, the normative component (i.e. social norms surrounding the act) also contributes to whether or not the person will actually perform the behavior. According to the theory, intention to perform a certain behavior precedes the actual behavior. This intention is known as behavioral intention and comes as a result of a belief that performing the behavior will lead to a specific outcome. Behavioral intention is important to the theory because these intentions "are determined by attitudes to behaviors and subjective norms". The theory of

reasoned action suggests that stronger intentions lead to increased effort to perform the behavior, which also increases the likelihood for the behavior to be performed.

## 2.6 CONCEPTUAL FRAMEWORK

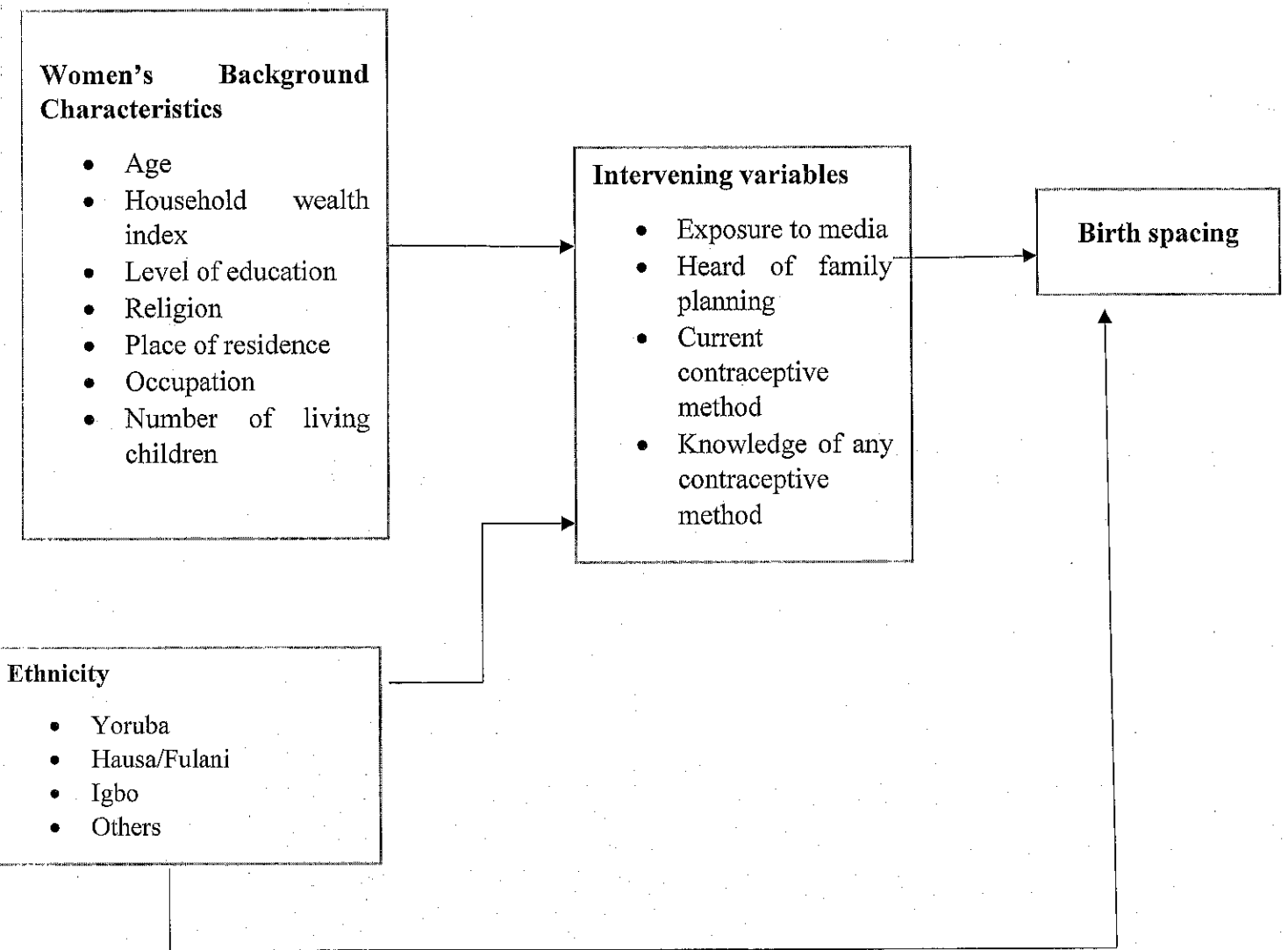


Fig 1: A Conceptual Framework examining the relationship between ethnicity and birth spacing in Nigeria.

Based on past studies, it is expected that ethnicity will influence birth spacing in Nigeria and it will be influenced by the characteristics listed above as independent variables.

Occupation also have a great influence on birth spacing, it is difficult for those who not self-employed to be giving birth at short intervals, for instance, those working in a banking system are not privileged to go on maternity leave often and this will in turn influence them to space their children optimally. But for those who are self-employed, it is easier for them to give birth at intervals they like. Region and place of residence also influences birth spacing, for instance, those living in the rural area in the Northern part of the Nigeria do not properly space their children. They give births to as much as possible at shorter interval because they tend to marry at early age.

## **CHAPTER THREE**

### **METHODOLOGY**

#### **3.0 INTRODUCTION**

This chapter focuses on the various techniques and procedures used in this research. It provides relevant information on the following: Background of the study area, Study Design, Target Population, Sample Size and Design, Source of Data, Measurement of Variables, Data Processing and Analysis.

#### **3.1 BACKGROUND OF STUDY AREA**

The study location for this research is Nigeria. The country is situated in the West African region sharing common boundaries with Niger Republic to the North, Cameroon and Chad République to the East, Benin Republic to the West, and Atlantic Ocean to the South. It has a total land mass of about 923,768 square kilometers. Nigeria has a different climate with the North Central and North East having uplands of 600 and 1,300 meters respectively, whereas the lowlands of 20 meters are along the coastal areas of the South-south and South-west zones of the country. The country has a tropical climate with rainy (April to August) and dry seasons (September to March).

Nigeria is the most populous country in Africa with an estimated population of over 198 million in 2016 projection. Nigeria has 36 states, and the states are clustered into six geopolitical zones: South-south zone with predominant ethnic group being KalbiriIjaw, Ikoi, Itsekiri, and Ibibio; South west zone with Yoruba as the dominant ethnic group; North Central zone with major ethnic groups being Nupe, Ebira, Idoma, Tivs, Igala, Gwari, and Angas; North East is largely

made up of Kanuri, Fulani, Marghi, Babur, Mumuye, and Jukun; South East with Igbo as the dominant ethnic; and North west zone that are largely Hausa and Fulani ethnic groups. Islam and Christianity are the dominant religions having followership of about 99% of Nigerians with Islam predominantly in the Northern and Christianity in the Southern geopolitical zones respectively.

The country operates as a federation with Federal, State and Local governments headed by democratically elected executive and legislative assemblies at all levels. There are 774 Local Government Areas (LGAs), spread across 36 states and a Federal Capital Territory. The country has more than 370 ethnic groups.

### **3.2 TARGET POPULATION**

The target population for this study was women in monogamous union (married or living with partner). This was however limited to women between the ages of 15 and 49 years who wanted another child.

### **3.3 SOURCES OF DATA**

The data for quantitative analysis were extracted from the 2013 Nigeria Demographic and Health Survey (NDHS) Data set (individual or women recode). Relevant aspects of the data to the study population were extracted.

### **3.4 SAMPLE DESIGN AND SIZE**

This study employed a single method approach, that is quantitative methods were used. The 2013 NDHS used a multi-stage cluster design to select nationally representative sample of women aged 15-49 years.

### 3.5.0 MEASUREMENT OF VARIABLES

The variables used for the study are classified into dependent and independent variables.

**DEPENDENT VARIABLE:** Birth spacing, was measured using preferred waiting time for another child. Non numeric and 'don't know' responses were merged to mean intentions to wait less than 12 months.

**INDEPENDENT VARIABLES:** Based on past studies, the following characteristics were selected as independent variables: ethnicity, age, household wealth index, educational level, exposure to media, heard of family planning on media, region, religion, place of residence, occupation, number of living children, current contraceptive methods use, knowledge of any contraceptive method, and attitude to family planning.

The measures for each variable are represented in Table 1 below

**Table 3.1: VARIABLES DESCRIPTION AND MEASUREMENT**

S/n	Variable	DHS measure	Measure for analysis
1.	Birth spacing	Preferred waiting time of a/another child (grouped) <12months 1 year 2 years 3 years 4 years 5 years 6+ years Non numeric Don't know	Preferred waiting time; <2 years coded 0 and 2+ years coded 1
2.	Ethnicity	Yoruba Hausa/Fulani Igbo Others	Yoruba Igbo Hausa/Fulani Others
3,	Age	15-24 25-34 35+	As used in DHS
4,	Marital status	Married	Married

		Living with partner	Living with partner
5	Ever Contraceptive Use	No Yes	No Yes
6.	Wealth index	Poor Average Rich	As used in DHS
7.	Region	North Central North East North West South East South South South West	As used in DHS
8.	Place of residence	Urban Rural	As used in DHS
9.	Religion	Christian Islam Traditional Other	Christian Islam Traditional Others
10.	Occupation (grouped)	Not working Professional/technical/managerial Clerical Sales Agriculture - self employed Agriculture – employee Household and domestic Services Skilled manual Unskilled manual Other	not working working
11	Educational level	No education Primary Secondary Higher	As used in DHS

12.	Number of living children	0 1-3 4+	0 1-3 4+
13.	Heard of family planning on; Radio  TV  Newspaper	Yes No Yes No Yes No	0 Not heard (no in all three DHS questions) 1 Heard (yes in all three DHS questions)
14.	Current contraceptive methods use	Not using Pill IUD Injections Diaphragm Condom Periodic Abstinence Withdrawal Other Implants/Norplant Lactation amenorrhea (LAM) Female condom Foam or jelly Other modern method	Not using Using
15.	Attitude to family planning	Contraception is woman's business, Man should not worry Disagree Agree Don't know Women who use contraception become promiscuous Disagree Agree Don't know	Positive ( agree in all three DHS questions) Negative ( disagree in all three DHS questions) Neutral( don't know in all DHS questions)
16.	Exposure to Media	Not Exposed Exposed	As used in DHS
17.	Knowledge of method of family Planning	Knows no method Knows only folkloric/traditional method Knows modern method	Knows no method Knows folkloric/traditional method Knows modern method



### 3.5 DATA PROCESSING AND ANALYSIS

The data were processed and analyzed using Stata application package (Stata 12.0). The data processing was essential before the proper analysis for the purpose of measuring the variables precisely as well as to make the analysis presentable and easily interpretable. Uni-variate analysis was carried out using tables of frequency distribution to describe the background characteristics of the respondents. The Bivariate analysis used the chisquare ( $\chi^2$ ) to show the association between the dependent and independent variables. Furthermore, logistic regression was used in the multivariate analysis to determine the strength and direction of association. The hypothesis was tested at .05 level of significance. At the multivariate level, occupation and household wealth index were excluded from the analysis because of high colinearity.

## CHAPTER FOUR

### PRESENTATION AND DISCUSSION OF THE FINDINGS

#### 4.0 DATA PRESENTATION AND ANALYSIS OF RESULTS

This chapter is focused on the presentation and discussion of the findings. The analysis was done in line with the research questions and hypothesis. Simple percentages were used to present the univariate and bivariate results while the hypothesis was tested at .05 level of significance using Pearson chi-square and logistic regression.

#### 4.1 UNIVARIATE ANALYSIS

Table 4.1.1 presents result of univariate analysis conducted to answer research question one. The table shows the percentage distribution of the study population by preferred waiting time for next child, the proxy for birth spacing and other selected background characteristics.

**Research Question 1:** What is the preferred birth interval among the study population?

**TABLE 4.1.1 Percentage Distribution of the study population by selected characteristics**

VARIABLES	FREQUENCIES	PERCENTAGES
<b>AGE</b>		
15-24	6,210	22.77
25-34	10,511	38.54
35+	10,553	38.69
<b>TOTAL</b>	27,274	100.00
<b>ETHNICITY</b>		
Yoruba	3,538	12.97
Hausa/Fulani	10,298	37.77

Igbo	2,936	10.76
Others	10,502	38.50
<b>TOTAL</b>	<b>27,274</b>	<b>100.00</b>
<b>RELIGION</b>		
Christian	11,387	41.75
Islam	15,466	56.71
Traditional and others	421	1.54
<b>TOTAL</b>	<b>27,274</b>	<b>100</b>
<b>Current marital status</b>		
Married	23,811	87.30
Living with partner	3,463	12.70
<b>TOTAL</b>	<b>27,274</b>	<b>100.00</b>
<b>OCCUPATION</b>		
Not working	7,672	28.13
Working	19,602	71.87
<b>TOTAL</b>	<b>27,274</b>	<b>100.00</b>
<b>WEALTH INDEX</b>		
Poor	11,823	43.35
Average	5,224	19.15
Rich	10,227	37.50
<b>TOTAL</b>	<b>27,274</b>	<b>100.00</b>
<b>PLACE OF RESIDENCE</b>		
Urban	9,436	34.60
Rural	17,838	65.40
<b>TOTAL</b>	<b>27,274</b>	<b>100.00</b>
<b>EXPOSURE TO MEDIA</b>		
Not exposed	1,391	5.10
Exposed	25,883	94.90

<b>TOTAL</b>	27,274	100.00
<b>EVER USE CONTRACEPTIVE</b>		
No	6,625	24.29
Yes	20,649	75.71
<b>TOTAL</b>	27,274	100.00
<b>KNOWLEDGE OF METHOD OF FAMILY PLANNING</b>		
Knows no method	4,094	15.01
Knows folkloric/traditional method	397	1.46
Knows modern method	22,783	83.53
<b>TOTAL</b>	27,274	100.00
<b>HEARD OF FAMILY PLANNING</b>		
Not heard of Family Planning	9,173	33.63
Heard of Family Planning	18,101	66.37
<b>TOTAL</b>	27,274	100.00
<b>NUMBER OF LIVING CHILDREN</b>		
0	2,613	9.58
1-3	12,570	46.09
4+	12,091	44.33
<b>TOTAL</b>	27,274	100.00
<b>PREFERRED WAITING TIME BIRTH</b>		
<2 years	12,842	47.09
2+ years	14,432	52.91
<b>TOTAL</b>	27,274	100.00
<b>CURRENT CONTRACEPTIVE METHOD</b>		
Not using	23,171	84.96
Using	4,103	15.04

TOTAL	27,274	100.00
<b>ATTITUDE TOWARDS FAMILY PLANNING</b>		
Positive	14,250	52.25
Negative	9536	34.96
Neutral	3,488	12.79
<b>TOTAL</b>	<b>27,274</b>	<b>100.00</b>

*Source: Author's Work, 2018 (Data from NDHS, 2013)*

From table 4.1.1, the percentage distribution of the study population shows that a slightly more than half (52.91%) of the respondents preferred to space birth 2 years and over. The majority (43.35%) of the respondents were in the poor quintile of wealth index, while the least (19.15%) were in the average quintile of wealth index.

The majority of the respondents (38.69%) falls in the age bracket (35 and above), while the least (22.77%) falls in the age category of 15-24. The majority of the respondents (46.09%) had between 1 to 3 living children.

Slightly more than of half (56.71%) of them were Muslim, while the least (1.08%) belonged to traditional religion affiliation. More than half of them had knowledge of family planning, and they knew more of modern method of contraceptives compared to other methods. Majority of them (84.96%) were not using any contraceptive method, while only few of the respondents (15.04%) were using contraceptive methods. The majority of them (35.43%) had secondary education, while only 20.51% of them had primary education. Approximately 85% of them were exposed to media, whereas 15% were not.

#### **4.2 BIVARIATE ANALYSIS**

This section presents the bivariate analysis of the relationship between preferred birth interval and women's individual characteristics using chi-square test of association.

**Question 2:** what is the relationship between preferred birth interval and Ethnic groups in Nigeria?

**TABLE 4.2.1 Percentage Distribution of preferred birth interval by Ethnic groups in Nigeria**

ETHNICITY	PREFERRED BIRTH INTERVAL %(N)		CHI-SQUARE VALUE	P- VALUE
	< 2 YEARS	2+ YEARS		
Yoruba	45.40 (868)	54.60 (1,044)	$\chi^2=42.6504,$ $p=0.000$	
Hausa/fulani	50.85 (4,112)	49.15 (3,974)		
Igbo	54.61 (972)	45.39 (808)		
Others	48.10 (3,332)	51.90 (3,595)		

From table 4.2.1, majority of the Yoruba ethnic group preferred birth interval of at least 2 years (54.60%) compared to the Hausa ethnic group (49.18%) and Igbo ethnic group (45.39%). This shows that there is significant relationship between ethnicity and preferred birth interval.

( $\chi^2=42.6504, p<0.05$ )

**Question 3:** To what extent do other socio demographic characteristics of the study population influence the relationship between preferred birth interval and ethnic group?

**TABLE 4.2.2 Percentage Distribution of preferred birth interval by women's characteristics**

CHARACTERISTIC	PREFERRED BIRTH INTERVAL % (N)		CHI-SQUARE VALUE	P- VALUE
	< 2 YEARS	2+ YEARS		
WEALTH INDEX				

Poor	49.85 (4,382)	50.15 (4,408)	
Average	47.92 (1,670)	52.08 (1,815)	$\chi^2=5.4950,$ $p=0.064$
Rich	50.33 (3,251)	49.67 (3,209)	
<b>OCCUPATION</b>			
Not working	52.65 (3,214)	47.35(2,89)	$\chi^2=19.9700,$ $p=0.000$
Working	49.17 (6,171)	50.83(6,380)	
<b>AGE OF RESPONDENTS</b>			
15-24	45 (2630)	55 (3215)	$\chi^2=595.7964,$ $p=0.000$
25-34	44.72 (3867)	55.28 (4780)	
35+	66.13 (2806)	33.87 (1437)	
<b>NUMBER OF LIVING CHILDREN</b>			
0	69.46 (1,681)	30.54 (739)	
1-3	46.29 (4,953)	53.71 (5,746)	$\chi^2=438.3497$ $p=0.000$
4+	47.52 (2,669)	52.48 (2,947)	
<b>CURRENT MARITAL STATUS</b>			
Married	97.31 (12,645)	96.31 (11,166)	$\chi^2=4.5505$ $p=0.033$
Living with partner	2.69 (2,273)	3.69 (1,106)	
<b>TYPE OF PLACE OF RESIDENCE</b>			
Urban	50.14 (3,023)	49.86 (3,006)	$\chi^2= 0.8374$ $p=0.360$
Rural	49.43 (6,280)	50.57 (6,426)	
<b>REGION</b>			
North Central	14.35 (390)	20.40 (586)	$\chi^2=126.1532$ $p=0.000$
North East	20.53 (558)	19.12 (549)	

North West	33.52 (911)	21.59 (620)	$\chi^2=126.1532$ p=0.000
South East	6.03 (164)	7.90 (227)	
South South	12.99 (353)	16.68 (479)	
South West	12.58 (342)	14.31 (411)	
<b>RELIGION</b>			
Christian	47.87 (3,259)	52.13 (3,549)	$\chi^2=14.2658$ p=0.000
Islam	50.75 (5,913)	49.25 (5,738)	
Traditional/Other	49.71 (86)	50.29 (87)	
<b>HEARD OF FAMILY PLANNING</b>			
Not Heard Of Family Planning	50.61 (6,474)	49.39 (6,319)	$\chi^2=15.5149$ p=0.000
Heard Of Family Planning	47.51 (2,799)	52.49 (3,093)	
<b>KNOWLEDGE OF ANY CONTRACEPTIVE METHOD</b>			
Knows no method	55.72 (1,628)	44.28 (1,294)	$\chi^2=57.7193$ p=0.000
Knows Folkloric/Traditional method	56.69 (144)	43.31 (110)	
Knows Modern method	48.40 (7,531)	51.60 (8,028)	
<b>CURRENT CONTRACEPTIVE METHOD</b>			
Not using	90.84 (2,469)	81.65 (2,345)	$\chi^2=98.6191$ p=0.000
Using	9.16 (249)	18.35 (527)	
<b>ATTITUDE TOWARDS FAMILY PLANNING</b>			
Positive	46.80 (8,272)	53.45 (9,535)	$\chi^2=29.1188$ p=0.000



Negative	43.45 (7,181)	39.42 (6,132)	$\chi^2=29.1188$ p=0.000
Neutral	9.75 (2,265)	7.14 (1,205)	
<b>EDUCATIONAL LEVEL</b>			
.No Education	33.89 (5,243)	21.80 (4,626)	$\chi^2=110.1351$ p=0.000
Primary	20.16 (2,498)	20.75 (2,596)	
Secondary	31.09 (4,479)	39.62 (3,138)	
Higher	14.86 (1,607)	17.83 (1,512)	
<b>EXPOSURE TO MEDIA</b>			
Not exposed	47.10 (398)	50.22 (447)	$\chi^2= 2.3110$ p= 0.128
Exposed	49.78(8,905)	52.90 (8,985)	

From the table above, the average Wealth index has the highest preferred birth interval of at least 2 years (52.08%) and the least is the poor category which (49.85%). Further test shows that there is no significant relationship between wealth index and preferred birth interval. ( $\chi^2=5.4950$ ,  $p>0.05$ ).

Majority of the respondents who were working preferred birth interval for at least 2 years (52.65%) compared to the not working class which is (49.17%), majority of the not working group has preferred of less than 2. This shows that there is significant relationship between occupation and preferred birth interval, ( $\chi^2= 19.970001$ ,  $p<0.05$ )

Majority of women age 25-34 years preferred birth interval at least 2 years (55.28%) while women age 15-24 years has (55%) and the least is women age 35+ 33.87%. The result shows

that there is a significant relationship between age and preferred birth interval. ( $\chi^2 = 595.7964$ ,  $p < 0.05$ ).

Majority of rural type of residence preferred birth interval at least 2 years (50.57%) while the urban type of residence has (49.86%). This shows that there is no significant relationship between type of residence and preferred birth interval. ( $\chi^2 = 0.8374$ ,  $p > 0.05$ ).

The result revealed that majority of people who had heard of family planning preferred birth interval at least 2 years (52.49%) while not heard of family planning has 50.61%. The result shows that there is a significant relationship between heard of family planning and preferred birth interval ( $\chi^2 = 15.5149$   $p < 0.05$ ).

#### **4.2.2 Test of hypothesis**

**H<sub>0</sub>:** There is no significant relationship between preferred birth spacing and ethnic group in Nigeria

**H<sub>1</sub>:** There is a significant relationship between preferred birth spacing and ethnic group in Nigeria

#### **Decision**

From the bivariate analysis using chi-square test shows that there is no statistically significant relationship between wealth index and birth interval. ( $\chi^2 = 5.4950$ ,  $p > 0.05$ ). We can conclude that there is no significant relationship between wealth index and birth spacing. Therefore we accept the null and reject the alternate.

The chi-square test also shows that the relationship between occupation was statistically significant ( $\chi^2=19.9700$ ,  $p=0.000$ ). This implies that occupational status of the respondents does not influence birth interval. Therefore, we reject the null hypothesis

The age of the respondents was also significantly related with birth interval ( $\chi^2=69.1956$ ,  $p<0.05$ ). We conclude that there is a significant relationship between age and birth interval, therefore we reject the null hypothesis.

The number of living children was revealed to be statistically significant with birth interval ( $\chi^2=438.3497$ ,  $p=0.000$ ). This signifies that the number of living children do influence birth interval. We therefore reject the null hypothesis and accept the alternate hypothesis.

This study also revealed that the marital status of the respondents was significantly related with birth interval ( $\chi^2=4.5505$ ,  $p<0.05$ ). We conclude that there is a significant relationship between current marital status and birth interval. Therefore, we reject the null hypothesis.

The place of residence of the respondents, whether they reside in the rural or urban areas was not significantly related with birth interval ( $\chi^2= 0.8374$   $p>0.05$ ). We conclude that there is no significant relationship between the place of residence of respondents and birth interval. Therefore, we accept the null hypothesis and reject the alternate hypothesis.

The region of respondents was also revealed to significantly influence birth interval ( $\chi^2=126.1532$ ,  $p<0.05$ ). We conclude that there is a significant relationship between the region of the respondents and birth interval. Therefore, we reject the null hypothesis.

With regards to religion, it was revealed in this study that the religion of the respondents was significantly related with birth interval ( $\chi^2=14.2658$ ,  $p=0.000$ ). We conclude that there is a

significant relationship between religion and birth interval. Therefore, we accept the alternate hypothesis and reject the null hypothesis.

This study also revealed that there was a significant relationship between heard of family planning and birth interval ( $\chi^2=15.5149$ ,  $p=0.000$ ). Therefore, we reject the null hypothesis and accept the alternate hypothesis.

The knowledge of contraceptive method was seen to be significantly related with birth interval ( $\chi^2=57.7193$ ,  $p=0.000$ ). Therefore, we accept the alternate hypothesis.

The current contraceptive method used by respondents was seen to be significantly related with birth interval ( $\chi^2=98.6191$ ,  $p=0.000$ ). Therefore, we accept the alternate hypothesis.

Respondent's attitude toward family planning was seen to be significantly related to birth interval ( $\chi^2=29.1188$ ,  $p=0.000$ ). Therefore, we accept the alternate hypothesis and reject the null hypothesis.

The level of education of the respondents was also revealed to be significantly related with birth interval ( $\chi^2=110.1351$ ,  $p=0.000$ ). We conclude that there is a significant relationship between educational level and birth interval. Therefore, we reject the null hypothesis.

The above chi-square test only reveals association, for further test of the hypothesis for this study with regard to magnitude and direction of association between men's characteristics and preferred birth interval in Nigeria, multivariate analysis using logistic regression was conducted.

The results are presented in the next section.

### 4.3 MULTIVARIATE ANALYSIS

The multivariate analysis using logistic regression was used to show the strength and the direction of the relationship between women's characteristics and preferred birth interval. The results are presented in odds ratios, associated p-values and confidence interval.

TABLE 4.3.1 Logistics Regression of preferred birth interval by women's characteristics

VARIABLES	Odds Ratio	P> z	[95% Conf. Interval]	
<b>Ethnicity</b>				
Others	1.00(R.C)			
Yoruba	1.50	0.000	.77	1.73
Hausa/Fulani	.79	0.061	.62	1.01
Igbo	1.95	0.000	1.31	2.28
<b>Age</b>				
15-24	1.00(R.C)			
25-34	.61	0.000	.56	.67
35+	.21	0.000	.19	.23
<b>Type of place of residence</b>				
Urban	1.00(R.C)			
Rural	1.01	0.789	.93	1.10
<b>Religion</b>				
Christian	1.00(R.C)			
Islam	.79	0.000	.72	.87
Traditional/others	1.02	0.886	.74	1.40
<b>Heard of family planning</b>				
Not heard of	1.00(R.C)			
Heard of	2.04	0.000	1.80	2.32
<b>Knowledge of any contraceptive method</b>				
Knows no method	1.00(R.C)			
Folkloric/traditional	.92	0.552	.70	1.20
Modern method	1.31	0.000	1.20	1.43
<b>Attitude towards family planning</b>				
Positive	1.00(R.C)			
Negative	.92	0.172	.82	1.04
Neutral	.79	0.038	.64	.99
<b>Exposure to media</b>				
No	1.00(R.C)			
Yes	1.20	0.018	1.03	1.41

<b>Educational level</b>				
No education	1.00(R.C)			
Primary	1.21	0.033	1.02	1.45
Secondary	1.18	0.062	.99	1.41
Higher	1.00	0.989	.81	1.24
<b>Current contraceptive method</b>				
Not using	1.00(R.C)			
Using	1.16	0.037	1.00	1.34
<b>Occupation</b>				
Not working	1.00(R.C)			
Working	.83	0.000	.78	.89
<b>Wealth index</b>				
Poor	1.00(R.C)			
Average	.94	0.248	.86	1.03
Rich	.81	0.000	.73	.89

*SOURCE: 2013, NDHS R.C = Reference Category O.R=Odds ratio*

Ethnicity has been argued in several literatures to have contributed to birth spacing. Taking Other Ethnic group as the reference category, Yoruba's and Igbo ethnic groups were seen to be significantly more likely to space their birth for 2years with respective odds ratio and p-value (OR=1.50,  $p<0.01$  and OR=0.85,  $p<0.01$ ), while Hausa/Fulani were insignificantly less likely to space for 2years (OR=0.79,  $p>0.05$ ).

Age was seen to contribute to the likelihood of birth spacing. Taking the age group of respondents between 15-24 years as a reference category, respondents in the age group of 25-34 and 34+ years are more likely than the reference category to prefer birth space of at least 2 years with respective odds ratio and p-value (OR=0.61,  $p=0.00$ , and OR=0.21,  $p=0.0$ ).

Those who resided in the rural were seen to be insignificantly more likely to prefer spacing birth for at least 2 years than those in the urban areas (OR=1.01,  $p>0.05$ ). This study also revealed that religion contributes to the likelihood of preference for spacing birth among married men in Nigeria. Taking Christian as a reference category (1.00), respondents who were affiliated to

Islam were significantly less likely to prefer spacing birth for at least 2 years (OR=0.79, p=0.00), whereas Traditionalist was insignificantly more likely than the reference category to have preference for birth space of at least 2 years in Nigeria (OR=1.02, p>0.05), respectively.

With regard to knowledge of contraceptives, those who knew about folkloric/traditional method were insignificantly less likely than those who knew no method (RC) to prefer spacing birth for at least 2 years (OR=0.92, p>0.05), whereas those who knew modern method were significantly more likely than the reference category to have preference for birth interval of at least 2 years (OR=1.33, p=0.00).

Attitude toward family planning also influenced the likelihood to prefer birth spacing practices among major ethnic groups in Nigeria. The result revealed that women who had negative and neutral attitudes were less likely than those who had positive attitude (RC) toward family planning to prefer spacing birth for at least 2 years (OR=0.92, p>0.05 and OR=0.79, p<0.05), respectively.

The result also revealed that those who have heard of family planning were two times more likely than those who have not heard of family planning (RC=1.00) to prefer spacing birth for at least 2 years (OR=2.04, p<0.01). Also, those who were exposed to media are more likely than those who were not exposed to prefer spacing birth for at least 2 years (OR=1.20, p>0.01).

Taking no education as the reference category (1.00), respondents who attained primary and secondary education were more likely than those in the reference category to prefer spacing birth for at least 2 years with the respective odds ratio and p-values (OR=1.21, p<0.05 and OR=1.18, p>0.05 ). Respondents who attained higher education were seen to insignificantly

prefer spacing birth equally for at least 2 years with those who had no education (OR=1.00,  $p>0.05$ ).

Those who were currently using contraceptives were significantly more likely than those who were not using contraceptives (reference category) to prefer spacing birth for at least 2 years (OR=1.66,  $p<0.05$ ).

The result also revealed that those who were significantly less likely than those who were working (RC) to wait for 2 years before the next birth. Also, wealth index was seen to be a contributing factor to preferred birth spacing. Taking poor as the reference category, those who were in the average quintile were significantly less likely to space their birth for at least 2 years (OR=0.94,  $p>0.05$ ), while those in the rich quintile were significantly less likely to space birth for at least 2 years.

#### 4.3.2 Test of hypothesis

Testing the hypothesis using logistic regression results shows that not all the tested characteristics were significantly associated with preferred birth spacing among men in Nigeria.

#### Decision

The logistic regression result revealed that current marital status, type of place of residence was not significantly related with birth spacing. Therefore, we reject the alternate hypothesis and accept the null hypothesis.

Also, this study revealed that age, region, religion, knowledge of any contraceptive method, attitudes toward family planning, and educational level were to some extent significantly related with birth spacing. We therefore conclude that the null hypothesis was to some extent true.



#### **4.4 Discussion of the Findings.**

This study was conducted with the objectives of examining birth spacing among major ethnic groups and the extent at which the socio demographic characteristics of the study population influence birth spacing. The study discovered that the majority of the respondents preferred to space their next birth by at least 2 years (52.91%) while those who preferred less than 2 years were 47.09%. This indicate that the majority of the respondents who were married or living with partner in Nigeria preferred waiting for at least two years before they conceive the next child. This might be as a reason to their exposure to media and information on the advantages of family planning and birth spacing. It was revealed in this study that the majority of the respondents was exposed to the media and knew modern methods of contraceptives; this confirms a study conducted by Nti et al. (2014).

At the bivariate level of analysis, the study revealed some factors that significantly influenced birth spacing among married men and those living with their partner they include, household wealth index, age, current marital status, current marital status, type of place of residence, region, religion, heard of family planning, knowledge of contraceptive method, attitude towards family planning, level of education, and exposure to the media. This was in contrast to the study conducted by Fayehun, Omololu & Isiugo-Abanihe (2011) who found out that level of education and residence are not significantly associated with birth spacing.

It was also revealed that the Yoruba ethnic group space their birth for at least two years than the rest of the ethnic groups. This is evidenced in the number of children they have compared to other ethnic groups. This was in line with the findings of Fayehun, Omololu & Isiugo-Abanihe (2011), that birth interval was higher in Yoruba ethnic group compared to Hausa and Igbo ethnic groups.

The age of respondents also influence birth spacing. It was revealed that women who were in the age group of 15-24 years were the least to space birth for less than 2 years and at least 2 years. Meanwhile, respondents in the age group of 34+ years preferred spacing birth for at least 2 years. This might be as a result that they have almost attained their desired family size. This was in line with the study conducted by McGuire & Stephenson (2015) on Community Factors Influencing Birth Spacing among Married Women in Uganda and Zimbabwe. Their study revealed that age had a significant association with the length of the preceding birth interval in both countries

The results also revealed that respondents who have heard of family planning are more likely to prefer spacing birth for at least 2 years than those who have not heard of family planning. This can be considered to be genuine because women who have heard of family planning would know the consequences and benefits associated with family planning and by so doing they will prefer to space birth appropriately. Mass media was also seen to be one of the factors that influence birth spacing. Respondents who were exposed to the mass media were seen to be more likely than those who were not exposed to prefer spacing birth for less than 2 years and at least 2 years. This result corroborate the study conducted by Amah et al. (2015) on the perceptual influence of child spacing campaigns on the knowledge, attitude and practices of rural women in South-East of Nigeria.

With regard to attitude toward family planning, it was revealed that women who had negative and neutral attitude toward family planning were not likely to prefer spacing birth for at least 2 years. Women who were using contraceptives were seen to be significantly more likely than those who were not using contraceptives to prefer spacing birth for at least 2 years. There is high tendency for men who do not use contraceptives to impregnate their partner's every time they meet and this will result to not spacing of birth appropriately.

It was revealed that only primary education was significantly associated with men's preferred waiting time for next birth. This corroborates to a good extent the study by Fayehun, Omololu and Isiugo-Abanihe (2011). Although all categories of educated men were more likely than their uneducated counterparts to prefer two or more years waiting period for the next child, only primary education was significant, while those who had higher education were insignificantly with those who had primary education to prefer spacing birth for at least 2 years. Knowledge on birth spacing increases with the increase in educational attainment of men, and this will bring about more practice of birth spacing. This was in contrast to some extent with the study of McGuire & Stephenson (2015), they found out that Women's education was significantly associated with the length of the preceding birth interval in Zimbabwe, with women reporting secondary or higher education reporting shorter birth intervals. In this study, it was seen that the respondents who had secondary and higher education had length of birth spacing of at least 2 years. Male involvement in family planning and reproductive health increases when husband receives higher education (Kamal et al, 2013).

## CHAPTER FIVE

### SUMMARY, CONCLUSION AND RECOMMENDATION

#### 5.0 Introduction

This chapter contains the summary of findings, conclusion and recommendations drawn from the result of the qualitative and quantitative analysis.

#### 5.1 SUMMARY OF FINDINGS

This study identified that 52.91%% of the respondents' in the sample population preferred to space their next birth for at least 2 years while 47.01% preferred less than 2 years. The bivariate analysis on women's characteristics and preferred birth spacing showed a significant relationship between women's preferred waiting time for next birth and age, wealth index, marital status, number of living children, type of place of residence, region, education, religion, heard of family planning, knowledge of contraceptive method, and attitude toward family planning, and access to media. It was revealed that there was no significant relationship between number of living children, occupation and birth spacing. Also, it showed that the Yoruba ethnic groups space their birth than that of the Hausa ethnic group

The binary logistic regression revealed that those who resided in the rural were insignificantly more likely to prefer spacing birth for at least 2 years than those in the urban areas.

Furthermore, the multivariate result revealed that age, region, religion, knowledge of any contraceptive method, attitudes toward family planning, and educational level were to some extent significantly related with birth spacing. We therefore conclude that the null hypothesis was to some extent true.

## **5.2 CONCLUSION**

This study examined the relationship between birth spacing and major ethnic groups of the respondents in Nigeria. We noted a significant relationship between many women's characteristics and their preferred birth spacing. 53% of women in Nigeria preferred spacing their birth for at least 2 years. This suggests that women would like to wait for at least 2 years before their wives conceive the next child, a situation that will improve the health of the baby and also give them enough time to recover from the delivery of last birth. Also, birth interval was noticeably higher among the Yoruba's than others.

## **5.3 RECOMMENDATIONS**

Based on the findings of this study, the following are recommendations for theoretical and practical purposes:

1. More research work should be conducted on birth spacing and ethnicity in Nigeria.
2. Scholars should examine reasons why the preferred birth interval is lesser in the Hausa/Fulani ethnic group.
3. Government should advocate more on the importance and advantage of proper birth spacing on the population growth and economic growth.

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