DETERMINANTS OF UTILIZATION OF FAMILY PLANNING SERVICES AMONG WOMEN OF CHILD-BEARING AGE IN RURAL AREAS OF KANO STATE, NORTHERN NIGERIA

BY

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A DISSERTATION SUBMITTED TO SCHOOL OF POSTGRADUATE STUDIES OF AHMADU BELLO UNIVERSITY, ZARIA IN PART FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF MASTER OF PUBLIC HEALTH (MPH) FIELD EPIDEMIOLOGY AND LABORATORY TRAINING PROGRAMME

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ATTESTATION

I declare that the work in the dissertation titled "Determinants of utilization of family planning services among women of child-bearing age in rural areas of Kano State, Northern Nigeria" was conducted by me in the Department of Community Medicine, Ahmadu Bello University, Zaria under the supervision of Professor Kabir Sabitu And Dr. S.S. Bashir

The information derived from the literature has been duly acknowledged. No part of this dissertation was previously presented for another degree or diploma at any university.

_____ _____

Amina Abdullahi Umar **Date**

CERTIFICATION

I certify that the work for this dissertation titled "Determinants of utilization of family planning services among women of child bearing age in rural areas of Kano State, Northern Nigeria" by Amina Abdullahi Umar meets the regulation governing the award of the degree of Masters of Public Health in Field Epidemiology of Ahmadu Bello University, Zaria and is approved for its contribution to knowledge and literary presentation.

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DEDICATION

I dedicate this work to:

i. My "two families": **my parents**, Dr. Abdullahi Umar Ganduje and Dr. Hafsat Abdullahi Umar for their unending love, support and guidance over the past decades; and **my husband,** Arc. Suleiman Ahmed **and children,** Abdullahi, Al-Hassan and Abdurrahman for bearing with my unavailability during the course of this work, and at several other occasions during my training.

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iii. All the **participants** in this study for sacrificing their time and providing valuable information that was indispensable to the success and completion of this project.

To all of you I remain grateful, and I hope one day I can make positive impact on life of others, as much as you have made my own.

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LIST OF ACRONYMS

ABU	Ahmadu Bello University
DHS	Demographic and health survey
EC	Emergency contraception
FP	Family planning
FPS	Family planning services
HIV	Human Immunodeficiency Virus
IUCD	Intrauterine Contraceptive Device
LGA	Local Government Area
NDHS	National Demographic and health survey
OCP	Oral Contraceptive Pills

SUMMARY

Family planning is an important preventive measure against maternal and child morbidity and mortality. It is an essential component of primary health care and reproductive health. There is relatively high fertility rate in suburban and rural Nigeria despite the efforts of government and other non-governmental family planning services providers. Even though the fertility rate is high, acceptance and utilization of modern family planning methods has been low due to various reasons. The objective of this study aims to determine the factors associated with utilization of family planning services among women of childbearing age in rural areas of Kano state, Nigeria. It is a descriptive cross-sectional, conducted among 364 women of childbearing age (15 to 49 years), utilizing the multi-stage sampling technique.139 (37%) of the respondents were within the age group 15 to 24 years, all respondents were married (100%) and 135 (37%) had more than 5 children. About half of the respondents (48.7%) had no formal education. Few were currently using a contraceptive method, however, the majority whom were not using any method had main reasons being lack of appropriate knowledge on family planning, fear of side effects and availability .The most significant socio-demographic determinants of utilization of family planning services were religion (p-value 0.01), family setting (p-value <0.001),age (p-value 0.01) and male involvement (p-value <0.001) . The utilization of family planning services among the rural women was poor, with religion, fear of side effect and husbands' disapproval among other reasons being the main reasons for non use.

CHAPTER ONE

INTRODUCTION

1.1. Background Information

Family planning is one of the most "health-promoting" and cost-effective activities in public health promotion and has the potential to avert approximately 30% of maternal and 10% of child deaths.[1] Thus, FP contributes to achieving the Millennium Development Goals (MDGs) through healthier birth spacing and by reducing mortality and morbidity associated with pregnancy.[2]

Decades of research and investment in family planning programmes have resulted in dramatically improved programme coverage and biomedical technologies as well as significant (although uneven) increases in contraceptive uptake throughout most of the developing world.[3] Contraceptive options—not all of which are available in many developing countries—include a variety of hormonal regimens and modes of delivery for women (e.g., pills, injectables, implants, patches, vaginal rings, medicated intrauterine devices) as well as improved male and female condoms, spermicides, cervical caps and other vaginal barriers, post-coital (emergency) contraception, improved fertility awareness-based methods, and simpler and more effective surgical techniques for tubal ligations and vasectomies.[4]

Nevertheless, Demographic and Health Surveys (DHS) reveal that in many countries- including some with quite high rates of contraceptive prevalence -40% or more of women who recently gave birth reported that the pregnancy was wanted later or not at all.[5] Proportions of married women with an unmet need for contraception also range up to 30 to 40% or more in a number of countries.[6] Both of these situations reflect, to variable degrees, programme- and method-related inadequacies, including contraceptive failures due to a variety of reasons, as well as personal and situational factors such as partner's opposition or women's experiences or fears of side-effects

that need to be addressed.[7] Contraceptive information, needs and motivations evolve through the life course as male and female adolescents become sexually active before marriage or cohabitation (perhaps with several partners) or at the time of their marriage, and as couples decide if and when to begin childbearing (if they have not already accidentally done so); accumulate experiences with contraception (or its absence) and with pregnancy and childbearing; think about spacing and stopping; and are potentially faced with 10 or 20 more reproductive years at risk. Some women and men will divorce, remarry and decide to have another child; others will bear children (wanted or unwanted) outside of marriage or be motivated to avoid it. The environmental and contextual scenarios are many; the individual trajectories even more diverse. The challenge for educational and health sectors is to meet these changing needs with comprehensive information about pregnancy risks, acceptable contraceptive options, and correct and consistent use. Interventions include countering beliefs in ineffective methods and overcoming unrealistic fears about contraceptive side-effects that adolescents may already have acquired.

A sustained service package adapted to the specific and changing needs of individuals and couples and linked with other sexual and reproductive health inputs must be offered.[8] The evidence base is by now quite extensive on how to create more user-friendly family planning environments, enhance client-provider interactions and other aspects of quality of care, and involve men as well as women in the discussion of contraceptive choices with respect to ease of use and need for partner cooperation, possible effects on sexual expression (e.g., coitus-dependent or independent methods), safety, efficacy, side-effects, acceptability, accessibility and cost.[9]

Guidelines have been established for counseling clients such as unmarried adolescents who need dual protection; couples wanting to use a natural method; couples wishing to postpone their first pregnancy or space subsequent pregnancies; women or men who want to use a method without their partners' knowledge; postpartum and breastfeeding women; women receiving post-abortion care; women who have had unprotected intercourse (including rape victims); individuals or couples looking for long-acting reversible or permanent methods; and women approaching menopause.[10] The evidence base has also expanded greatly with respect to the medical aspects of contraception for male and female users. Method-specific medical eligibility criteria have been established for women of all reproductive ages who have particular health problems, such as heavy smokers and those with chronic diseases receiving long-term drug treatments (e.g. antihypertensive agents, antiretroviral drugs).[11] Ongoing investigations are assessing the protective and risk factors of particular methods with respect to certain diseases (e.g., breast, cervical or testicular cancers, cardiovascular disease, endometriosis).

Family planning is an important preventive measure against maternal and child morbidity and mortality. It is an essential component of primary health care and reproductive health. It plays a major role in reducing maternal and neonatal morbidity and mortality. It confers important health and development benefits to individuals, families and communities and the nation at large. It helps women to prevent unwanted pregnancies and limit the number of children, thereby enhance reproductive health.[12] By this, it contributes towards achievement of Millenium Development Goals (MDGs) and the Target of the Health for all Policy.[13] The MDGs call for 75% reduction in maternal mortality and two-thirds reduction in child mortality between 1990 and 2015.[14] As such effective utilization of family planning services is critical for the attainment of these goals

thus improving health and accelerating development across the regions.[15]Access to family planning also has the potential to control population growth and in the long run reduce green gas house emission with it associated risk.[13] Similarly it has been estimated that preventing unwanted pregnancies by the use of family planning would avert a total of 4.6million Disability Adjusted Life Years.[16] Despite the importance and benefits of family planning, it has been estimated that about 17% of all married women globally would prefer to avoid pregnancy but are not willing to use any form of family planning.[17] As a result, 25% of all pregnancies are unintended particularly in developing region of the world. This results to an estimated 18million abortion taking place each year, thereby contributing to high maternal morbidity and injuries.[14,17] Sub-Saharan Africa which is home to only 10% of the world's women, contributes annually, 12million unwanted or unplanned pregnancies and 40% of all pregnancy related deaths worldwide.[14] The contraceptive prevalence in sub-Saharan Africa is low, estimated at 13%, in spite of the evidence of the pivotal role of family planning, while in Nigeria the estimation is 8.0% with 17% unmet need for family planning.[17,18] This greatly contributes to the high rate of unintended pregnancies leading to induced abortion with its consequent complications.[17] Despite the fact that Nigeria constitutes only 2% of the world's population, it has being shown to account for 10% of the world's maternal deaths. There is relatively high fertility rate in suburban and rural Nigeria despite the efforts of government and other non-governmental family planning services providers. Even though the fertility rate is high, acceptance and utilization of modern family planning methods has been low due to various reasons. In Africa, provision of family planning services is hindered by poverty, poor co-ordination of the programme and dwindling donor funding.[14,19,20] Additionally, traditional beliefs favouring high fertility, religious barriers,

fear of side effect and lack of male involvement have contributed significantly in weakening family planning interventions.[14,20,21]

1.2 Problem Statement

The number and timing of pregnancies in a woman's reproductive lifespan affects the maternal mortality risk; other factors include the presence of co morbidities, and obstetric care. The effect of these factors is quantifiable by four measures: the number of maternal deaths, the maternal mortality rate (MMRate), the maternal mortality ratio (MMRatio), and the lifetime risk of maternal death.

The MMRate is the yearly number of maternal deaths per 1000 women of childbearing age (15–49 years). The MMRatio has the same numerator, but is expressed per 100,000 live births. Lifetime risk of maternal death is the cumulative probability of a woman dying of maternal causes during her reproductive life, and is a measure of pregnancy-related female death. Both the MMRate and lifetime risk of maternal death respond directly to fertility rates and thus quantify the risk of maternal death per woman, whereas the MMRatio is indicative of risk per pregnancy due to poor access to and quality of obstetric services. A fall in the number of pregnancies lowers the number of maternal deaths because, self-evidently, in the absence of pregnancy, the risk of maternal death is non-existent.

Although the MMRatio is linked directly to improvements in maternity care, it also responds to fertility rates, which can affect the proportion of births to women with greater-than-average obstetric risk—ie, those who are younger than 18 years or older than 34 years, those with only one child or more than three children, and those whose births are closely spaced.

Increased contraceptive use and subsequent fertility decline results in decreased obstetric risk, mainly by reducing unwanted pregnancies in women of high parity. The risks associated with high parity are seen in parity-specific MMRatios, most of which, in developing countries, are derived from hospital delivery records. MMRatios tend to be raised at parity 1, then become lowered at parities 2–3, then raised again at 4–5, and highest at parities greater than 6. Raised maternal mortality risks at high parities have been seen in Pakistan, Senegal, and west Africa.

In terms of birth spacing, an analysis of more than 450 000 births in Latin America and the Caribbean between 1985 and 1997 identified an adjusted odds ratio (OR) of 2·5 (95% CI 1·2–5·4) for maternal death when the interpregnancy interval (the length of time between pregnancies) was less than 6 months. However, a systematic review of 22 studies, a third of which were done in developing countries, examined birth spacing and maternal outcomes and showed inconsistent effects from short interpregnancy intervals on maternal mortality. The investigators reported a strong relation between short birth intervals and poor pregnancy outcomes and maternal morbidity, but a weak relation with maternal mortality, a paradoxical pattern warranting further research.

Another category of high-risk pregnancies are those that end in unsafe abortion. It has been reported that there were 208·2 million pregnancies worldwide in 2008. About 185·4 million of them occurred in developing regions, of which two-fifths (40%) were unintended, with 16% ending in live birth, 19% in abortion, and 5% in miscarriage. It has been estimated that 42 million pregnancies were aborted worldwide in 2003, of which 19·7 million (48%) took place in unsafe conditions. About 97% of unsafe abortions occur in developing countries, and an updated estimate puts the number in 2008 at 21·6 million, with increased rates in sub-Saharan Africa and

Latin America since 2003. About 47 000 maternal deaths (13% of all maternal deaths) in developing countries are caused by complications of unsafe abortions. Contraceptive use can prevent recourse to induced abortion and eliminate most of these deaths.

Ross and Blanc estimate that fertility decline between 1990 and 2008 in developing countries averted 1·7 million maternal deaths, corresponding to a 54% reduction in the MMRate. Because increased contraceptive use accounts for 73% of fertility declin), a 40% reduction in the MMRate during these 18 years can be attributed to contraception. Darroch and Singh estimate that 43·8 maternal deaths are averted per 100 000 modern-contraceptive users every year. This ratio implies that, in the absence of contraception, the number of maternal deaths in 2008 (about 355 000) would have been 74% higher, at 619 114. A subsequent analysis with a different approach gave an almost identical estimate of the proportion of maternal deaths in 2008 in developing regions averted by contraceptive use.

Because contraceptive use is estimated to have averted 43–44% of maternal deaths in 2008, and to account for an additional 3·7% reduction in maternal deaths due to its indirect effect on obstetric risk, contraceptive use in developing countries prevents 47–48% of maternal deaths per year. Its effect is further amplified if near-miss cases (severe but non-fatal maternal morbidity episodes) are considered along with maternal deaths.

Conde-Agudelo and colleagues reported the results of a comprehensive systematic review and meta-analysis of observational studies investigating the association between interpregnancy interval and adverse perinatal outcomes. 67 studies whose results were adjusted for at least maternal age and socioeconomic status, including more than 11 million pregnancies, met the strict inclusion criteria. 26 of these studies provided data for meta-analyses, 16 provided data for

preterm birth, ten for low birthweight, 13 for small for gestational age, seven for fetal death, and four for early neonatal death.

For preterm birth, low birthweight, and small for gestational age, the highest risk was for intervals shorter than 20 months and longer than 60 months. For both fetal and early neonatal death, the highest risk was for intervals shorter than 6 months and longer than 50 months. Infants conceived 18–23 months after delivery of the previous child had the lowest risks of adverse perinatal outcomes and were used as the referent category. Infants born to women with interpregnancy intervals shorter than 6 months had pooled adjusted ORs of 1·4 (95% CI 1·2–1·6) for preterm birth, 1·6 (1·4–1·9) for low birth weight, and 1·3 (1·2–1·3) for small for gestational age, compared with infants born to women with intervals of 18–23 months. Likewise, infants born after an interval of 6–17 months were 5–14% more likely to have these adverse outcomes than were the referent group. Intervals longer than 59 months were also associated with a significantly greater risk for these three adverse perinatal outcomes (OR 1·20 [95% CI 1·17–1·24] for preterm birth; 1·43 [1·27–1·62] for low birth weight; 1·29 [1·20–1·39] for small for gestational age). Subgroup analyses according to study setting revealed that the negative effect of interpregnancy intervals shorter than 6 months on the risk of both preterm birth and low birth weight was significantly greater in developing countries (adjusted ORs 2·3 [95% CI 2·2–2·4] and 2·1 [2·0–2·3], respectively) than in developed countries (adjusted ORs 1·3 [1·2–1·3] and 1·5 [1·4–1·6], respectively). This shows that interpregnancy intervals shorter than 18 months and longer than 59 months were significantly associated with increased risk of preterm birth, low birth weight, and small size for gestational age.

Of the possible demographic effects on child health, birth spacing has been the main focus. A comprehensive analysis by Rutstein examined the effect of the length of time from the birth of the preceding child to the conception of the index child using pooled data for more than 1 million births from 52 Demographic and Health Surveys. A large number of demographic and socioeconomic factors were controlled through regressions. For infants (children younger than 1 year), the shorter the interval (18 months or less), the greater the mortality risk. Very long intervals of 60 months or more were associated with higher risks. In the 52 surveys, about 50% of second births and 70% of third-order (or higher) births were conceived after intervals of less than 24 and 36 months, respectively, and the population attributable risk suggested that infant mortality would fall by 7·5% if women avoided conceiving during the 24 months after a preceding birth (equivalent to a birth interval of less than 33 months). Expressed in terms of interbirth intervals, children born within 2 years of an elder sibling have a 60% increased risk of infant death, and those born within 2–3 years a 10% increased risk, compared with those born after an interval of 3 years or longer.

Maternal health outcomes in Nigeria are among the worst in the world, with Nigeria second only to India in the number of maternal deaths.[22,23] In Northern Nigeria, the maternal mortality ratio (MMR) is estimated to be appreciably higher than the national average[24] with recent estimates for the north over 1,000 deaths per 100,000 live births, compared to MMR estimates for the southern region below 300 deaths per 100,000 live births.[25,26] In Nigeria, the rise in maternal mortality has been accompanied by a decline in antenatal care utilization and deliveries with a skilled birth attendant.

According to NDHS 2013, only 15 percent of currently married women in Nigeria are using a contraceptive method, indicating only a two percentage point increase from the 2003 NDHS. The majority of contraceptive users rely on a modern method (10 percent of currently married women), and 5 percent use traditional methods. Among the modern methods, injectables (3 percent), male condoms (2 percent), and the pill (2 percent) are the most common methods being used. The practice of all other modern methods is far less (under 1 percent). Interestingly, 3 percent use withdrawal as a method of contraception.

The use of contraceptives varies by women's background characteristics. The proportion of currently married women who are currently using any method of contraception rises with age from only 2 percent among women age 15-19 to 22 percent among age 40-44. The use of contraception then decreases among women who are age 45 and older. Among modern methods, use of condoms is more popular among women under age 35, while injectables are more popular among women age 35-44. Currently married women in urban areas are considerably more likely to use any method of contraception (27 percent) than women in rural areas (9 percent). Use is higher in urban than in rural areas for each of these methods. Contraceptive use among currently married women aged between 15 to 49 years in North West Nigeria is 4.3% while that of North East and North Central are 3.2% and 15.6% respectively. Use is higher in Southern Nigeria with South East (29.3%), South South (28.1%) and South West (38.0%). Gross disparities occur among the six (6) geopolitical zones as well as among states. Kano State has contraceptive use of 0.6% (lowest in the North) with only 0.5% using any modern method (pill- 0.2%, IUD- 0.2%, injectables- 0.1% while 0.0% use implants, male condom, LAM, standard days methods and female sterilization).

Educational attainment is positively associated with the use of contraception. The use of contraception rises with the educational attainment of women. For example, only 3 percent of women with no education use a method of contraception compared with 20 percent with primary education, 29 percent with secondary education, and 37 percent with more than secondary education. In general, women do not begin to use contraception until they have had at least one child. Contraceptive use increases as the number of living children born to a woman increases. Two percent of women who have no children are currently using family planning methods compared with 13 percent of women with one to two children. The contraceptive use peaks at 21 percent for women with three to four children before decreasing to 16 percent for those with more than five children. This pattern is true for use of modern as well as traditional methods. There is a direct relationship between the outcome of pregnancy and family planning. The demographic transition theory states that only when fetal, infant, and child mortality rates are reduced it is likely that a family will accept family planning.[29] Thus, improvement of maternal and child health services is a prerequisite for family planning. As a result, child spacing is a critical factor which influences the outcome of pregnancy. When women adhere to the World Health Organization recommended minimum inter-birth interval of 33 months between two consecutive live births, the incidence of prematurity reduces. Thus, prevention of rapid series of many pregnancies provides a greater possibility of reducing maternal, fetal, infant, and childhood mortality.[30] In general, child spacing provides greater opportunities for nurturing the individual child thereby providing the possibility of preventing complications such as gastrointestinal infections and malnutrition during infancy and early childhood.[30] Family planning may also improve the quality of life and raise the standard of living by decreasing the number of dependents requiring intensive personal care, education, food, shelter, and clothing, among

others. Nevertheless, where family planning services may be available, its use may be limited due to a number of factors such as low literacy levels, socio-cultural beliefs favoring large families, and unavailability of services due to dysfunctional health services.[31] Along with these dynamics in maternal care and contraceptive use patterns, there has been less progress in improving infant and child survival and primary care utilization. As of 2008, the North West and North East regions were the regions with the highest proportions of children 12-23 months who had never been vaccinated, 48.7% and 33.9%, respectively, and fewer than 15.0% had a vaccination card. Vaccination coverage rates in the four northern states of Zamfara, Katsina, Jigawa, and Yobe were all 5.4% and below.[27] When their young children became sick with pneumonia, malaria or diarrhea, under half of all sick children were taken to a health facility for treatment. Infant mortality rate was 139 deaths per 1,000 births in the North West region and 126 deaths per 1,000 live births in the North East region, while under five mortality rate was 217 and 222 deaths per 1,000 live births, respectively.[27]

1.3. Relevance of study to Public Health

High fertility rate and inadequate spacing between births, can lead to high maternal and infant mortality. An estimated 600 000 maternal deaths occur worldwide each year; the vast majority of these take place in developing countries. WHO estimates that 13% of these deaths are due to unsafe abortion. Worldwide, where approximately 50 million women resort to induced abortion, frequently results in high maternal morbidity and mortality.[32,33] Thus, family planning and spacing among births are one of the methods to avoid these deaths. Promotion of family planning and contraceptive use is highly adopted by the international community as one of the strategy to reduce the maternal mortality and to reach the Millennium Development Goals.[34-36] Africa

characterized by high rate of lack to contraceptive access reaching 57% and this lack lead to unwanted pregnancies, increased demand to abortion and death related to unsafe abortion.[37]

In Nigeria, there is unaccepted high maternal mortality. Moreover, legally, politically and culturally access to abortion create internal dispute, therefore effective contraceptive programming should be the current and future approach to reduce the risk and unwanted pregnancies. Few published data exist concerning use of family planning services in Nigeria especially northern part where we have recently observed high maternal morbidity and mortality in this setting. Thus, this study will be conducted to investigate use of family planning methods among child-bearing women in Kano, Northern Nigeria.

1.4. Research Questions

1. What is the level of knowledge of family planning among women of child-bearing age in rural areas of Kano State?
2. What are the attitudes of rural women of child-bearing age towards family planning?
3. What is the level of use of family planning products/methods and services among rural women of child-bearing age?
4. What are the factors associated with utilization of family planning services among rural women of child-bearing age?

1.5. General and Specific Objectives

1.5.1 General Objective

To assess the determinants of utilization of family planning services among women of child bearing age in rural areas of Kano state, Northern Nigeria.

1.5.2 Specific Objectives

1. To determine the level of knowledge of family planning among women of child-bearing age.
2. To determine the attitudes of rural women of child-bearing age towards family planning.
3. To determine the level of use of family planning products and services among rural women of child-bearing age.
4. To determine the factors associated with utilization of family planning services among women of child-bearing age.

1.5.3 Scope of the study

The study covered women of child bearing age (15-49 years) residing in 3 rural LGAs of Kano State during the period of 6 months. It determined the knowledge, attitude and utilization of family planning services as well as assessed the determinants of utilization of family planning services.

CHAPTER TWO

LITERATURE REVIEW

Historical perspective of family planning

Family planning refers to the use of modern contraception and other methods of birth control to regulate the number, timing, and spacing of human births. It allows parents, particularly mothers, to plan their lives without being overly subject to sexual and social imperatives. However, family planning is not seen by all as a humane or necessary intervention. It is an arena of contestation within broader social and political conflicts involving religious and cultural injunctions, patriarchal subordination of women, social-class formation, and global political and economic relations.

Attempts to control human reproduction is not entirely a modern phenomenon. Throughout history, human beings have engaged in both pro-and antinatalist practices directed at enhancing social welfare. In many foraging and agricultural societies a variety of methods such as prolonged breast-feeding were used to space births and maintain an equilibrium between resources and population size.

The idea of modern population control is attributed to Thomas Malthus (1766–1834), who in 1798 articulated his doctrine attributing virtually all major social and environmental problems to population expansion associated with the industrial revolution. However, as a clergyman turned economist, Malthus was opposed to artificial methods of fertility control. He advocated abstinence and letting nature take its toll and allowing the poor to die.

In contrast, birth control emerged as a radical social movement led by socialists and feminists in the early twentieth century in the United States. The anarchist Emma Goldman (1869–1940)

promoted birth control not only as a woman's right and worker's right, but also as a means to sexual freedom outside of conventional marriage. But soon birth control became increasingly medicalized and associated with science and corporate control as well as with the control of reproduction within marriage and conventional family life. As the radicals lost their leadership of the birth control movement to professional experts, mostly male doctors, by the 1920s birth control, which refers to voluntary and individual choice in control of reproduction, became aligned with population control, that is, a political movement by dominant groups to control the reproduction of socially subordinate groups.

During the influx of new immigrants in the 1920s and 1930s and during the depression, when the ranks of the unemployed were swelling, eugenicist (hereditary improvement) ideology and programs for immigration control and social engineering gained much ground in the United States. Even the birth-control pioneer Margaret Sanger (1879–1966) and suffragists such as Julia Ward Howe (1819–1910) and Ida Husted Harper (1851–1931) surrendered to ruling-class interests and eugenics, calling for birth control among the poor, blacks, and immigrants as a means of counteracting the declining birth rates of native-born whites. Influenced by eugenicist thinking, twenty-six states in the United States passed compulsory sterilization laws, and thousands of persons—mostly poor and black—deemed "unfit" were prevented from reproducing. By the 1940s, eugenicist and birth-control interests in the United States were so thoroughly intertwined that they became virtually indistinguishable. In the post–World War II era, compulsory sterilization became widespread in the so-called Third World where the birth rates have been higher than in the industrialized countries (in 1995, fertility per woman was 1.9 in the more developed regions and 3.6 in the less developed regions).

In the late twentieth century, the fear of demographic imbalance again seemed to be producing differential family-planning policies for the global north and the south. This was evident in corporate-scientific development of stronger contraceptives largely for poor women of color in the south and new reproductive technologies for fertility enhancement largely for white upper-class women in the north. Some insurance companies in the United States continue to refuse to cover conception in the early twenty-first century. Countries concerned with population "implosion" in the north such as Sweden, France, and Japan are pursuing pronatalist policies encouraging women to have more children while at the same time pursuing antinatalist policies encouraging women in the south to have fewer children.

Given the massive increase in population in the south hemisphere countries since World War II, much of global family-planning efforts have been directed toward those poor countries of the so-called Third World. The followers of Malthus, the neo-Malthusians, have extended his thinking, blaming global poverty, political insecurity, and environmental degradation on the "population explosion" and calling for population control as the primary solution to these problems. Their efforts have helped turn family planning into a vast establishment of governmental and nongovernmental organizations with financial, technological, and ideological power emanating from the capitals in the north toward the remote corners of the south. Within countries in the south, the hierarchical family-planning model spreads from professional elites in the cities to the poorest men and women in the villages. In India alone, there are an estimated 250,000 family-planning workers. Every year vast amounts of money are spent to promote "contraceptive acceptance" among the poor populations in the world. Contraceptive use in the "developing world" has increased from less than 10 percent of couples of reproductive age in the 1960s to more than 50 percent (42 percent excluding China) in the 1990s. The rapidly falling birth rates in

the Third World are generally attributed to the "family-planning revolution" represented by expanding use of modern contraceptives.

The International Conference on Population and Development (ICPD), held in Cairo in 1994, is generally considered to have ushered in a new approach to population and development, upholding reproductive health and rights of women over meeting numerical goals for reducing fertility and population growth. Departing from earlier positions and upholding voluntary choice in family size, the ICPD Programme of Action states that demographic goals in the form of targets and quotas for the recruitment of clients should not be imposed on family-planning providers and expresses disapproval of the use of incentives and disincentives. It acknowledges the setting of demographic goals as a legitimate subject of state development strategies to be "defined in terms of unmet needs for [family-planning] information and services". But, as human rights activists concerned with continued abuses in family-planning programs point out, there is still a long way to go in establishing policies and ethical standards to ensure that the new health and women's rights objectives are achieved.

Notwithstanding massive spending and extensive family-planning promotion over three decades, many poor people in the Third World remain reluctant to use modern contraception in the early twenty-first century. Attitudes and the need for children among the poor are often quite different from that of family-planning enthusiasts, who are mostly middle-class professionals. Even when poor people use modern contraceptives, their continuation rates are often low due to lack of access to health care, side-effects of contraceptives, and other reasons. Given these realities and the urgency to reduce fertility, international family planning continues to rely on the use of

economic incentives and disincentives as well as highly effective, provider-controlled, female methods.

Types/methods of family planning

Compelling evidence exists for the overall health benefits of modern contraceptives exceeding the health risks for most women, and that the risks associated with use are less than are those of non-use.[76] Although the contraceptive benefits of modern methods are broadly the same, the non-contraceptive benefits and risks are specific to each method.

The most prevalent method of contraception worldwide is surgical sterilisation. Female sterilisation (tubal sterilisation) and male sterilisation (vasectomy) have immediate surgical risks, but the risks of death and serious morbidity are very small with tubal sterilisation and even lower with vasectomy.[77] Many studies have shown that, in general, both tubal sterilisation and vasectomy seem to have little long-term health effects—either positive or negative—beyond the noted beneficial effects on pregnancy prevention. Tubal sterilisation is associated with a reduced risk of ovarian cancer.[77] Although the risk of pregnancy is low after tubal sterilisation, when pregnancy does occur, it is more likely to be ectopic; however, the absolute risk of ectopic gestation is lower than when no contraception is used.[77]

Worldwide, intrauterine devices (IUDs) are the most widely used modern method of reversible contraception, and results of studies show overall health benefits and few long-term risks for most women. The risk of pelvic inflammatory disease is very low in women fitted with an IUD who have a low risk for sexually transmitted infections (about 1·6 per 1000 women), but women with cervical chlamydial or gonococcal infections who have an IUD are at increased risk.[76] IUDs have been associated with a reduced risk of endometrial cancer,[79] and a pooled analysis suggests

a possible reduced risk of cervical cancer.[80] Levonorgestrel-releasing IUDs reduce menstrual blood loss. As with tubal sterilisation, pregnancies during use are very uncommon, but are more likely to be ectopic when they occur, but the absolute risk is lower than when no method is used.[81]

Combined oestrogen–progestogen oral contraceptive pills (OCPs) are among the most widely used modern contraceptive methods in many countries and are also among the best studied drugs in history. An analysis of data from a large UK cohort study with long-term follow-up reported that use of OCPs slightly reduces all-cause mortality.[82] OCPs are associated with very low relative and absolute risks of cardiovascular disease in young healthy women who do not smoke, although women aged 35 years or older who smoke are at increased risk.[83] They reduce the prevalence of anaemia[83] and decrease the risk of endometrial and ovarian cancer, with this effect increasing with length of use and persisting long after discontinuation of use.[84,85] Whether OCPs have any effect on the risk of breast cancer is unclear. A pooled analysis of 54 studies reported a small increase in risk of breast cancer in OCP users that was not present in past users,[86] but a subsequent large US study reported no such increase.[87] Studies suggest an increased risk of cervical cancer in OCP users who are positive for human papillomavirus (HPV) DNA, but not in those negative for HPV DNA.[83] A pooled analysis showed that OCP users had a raised risk of cervical cancer that increased with duration of use and decreased after cessation of use, with the risk returning to that for never users after 10 years.[88]

Progestogen-only implants and injections are also common in some countries. Depot medroxyprogesterone acetate injections are associated with bone loss during long-term use that

seems to be largely, if not fully, reversible with discontinued use. Whether use by adolescents will affect their peak bone mass and risk of fractures as they get older is unknown.[89]

Evidence for the safety of hormonal contraceptives and IUDs in women with HIV/AIDS is scarce, but available studies are generally reassuring about adverse health effects, including disease progression in infected women and HIV transmission to uninfected partners.[90] One randomised trial,[91] however, reported increased risks of disease progression and death in hormonal contraceptive users compared with IUD users, and a prospective cohort study of HIV-1 serodiscordant couples in seven African countries[94] reported that use of hormonal contraception increased risk of both male-to-female and female-to-male transmission of HIV to uninfected partners. Studies of whether hormonal contraceptives increase the risk of HIV infection have been difficult to interpret because of challenges in controlling for several confounding factors. A 2012 WHO technical consultation concluded that the use of hormonal contraceptive methods by women with HIV or at high risk for HIV should not be restricted, but issued a detailed clarification for women receiving progestogen-only injections because of the inconclusive evidence about risk of HIV infection.[92]

Although serious health risks associated with contraception are uncommon, side-effects are common, particularly with the most effective methods. For example, menstrual bleeding abnormalities are a frequent side-effect of hormonal contraceptives and IUDs, and the loss of regular menses might affect the acceptability of these methods in some regions. In general, although side-effects are minor, they can be unacceptable and are the most frequently cited reason for discontinuation. Typically, 30–50% of women discontinue use of OCPs or

contraceptive injections within 12 months because of side-effects or health concerns, although most switch promptly to alternatives.

Policy issues on family planning

The International Conference of Population and Development (ICPD) held in Cairo in 1994, presented a Program of Action (PoA) which had pledges to achieve the goal of universal access to reproductive health (RH) services for everyone in all countries till 2015.[68,69] In all, 179 countries became signatories and pledged to make change in their legislation and reproductive health (RH) related policies according to program of action. One of the outcomes of this conference was the call of new paradigm in reproductive health. This new paradigm increases the emphasis on human rights, human development and individual well-being which should be the center of all RH related programs and policies.[69] The key goals which were embedded in the ICPD-PoA were:

• By 2005, 60% of primary health care and family planning facilities should offer the widest achievable range of safe and effective family planning methods, essential obstetric care, prevention and management of reproductive tract infections, including sexually transmitted infections (STIs), and barrier methods to prevent infection; 80% of facilities should offer such services by 2010, and all should do so by 2015.

• Skilled attendants should assist at least 40% of all births where the maternal mortality rate is very high; and 80% globally by 2005. This coverage should be 50% and 85% by 2010; and 60% and 90% by 2015.

• The gap between the proportion of individuals using contraceptives and the proportion expressing a desire to space or limit their families should be reduced by half by 2005, by 75% by 2010, and by 100% by 2015.[69]

Among the 15 principles of PoA, it was clear that issues such as family planning, infant mortality and morbidity, maternal mortality and morbidity and sexually transmitted infections (STIs) have been placed in such context where these are sighted from the broader angle of RH for women and men of all ages. Empowerment of women through ensuring their ability to control their own fertility is the cornerstone of population and development-related programs. The right based approach is the major theme of ICPD inclusive of inclusive of STIs and prevention of HIV, human sexuality and gender relations, reproductive rights for adolescents, family planning. In pursuance, all the countries agreed to provide RH services accessible through primary health care system.

Five years later in 1999, a review of ICPD-PoA, known as ICPD+5 revealed that there was a need of sufficient domestic and external resources to be invested in order to achieve the goals of ICPD in next 15 years in many countries. All the ICPD signatories and European Union got together and adopted a document named "Key actions for the further implementation of the Program of Action of ICPD". At this stage one particular addition was the inclusion of HIV/AIDS preventive services especially for pregnant women. The major focus of this conference was to how to overcome the identified barriers for achieving the goals set in Cairo particularly human and legal impediments in access of services. At least 20% of resources for RH programs were suggested to be earmarked for meeting the adolescents' information and services needs.[73]

With the agenda to provide development in the economical, social and environmental domains, the international community adopted the International Development Goals (IDGs). Interestingly, one goal was exclusively on providing and improving access to RH services for all females of appropriate age.[74]

In 2000, world leaders expressed that there is a need to have explicit goals to measure the pace of socio-economic development at country level all over the world. Among these goals, one explicit goal was on universal access to RH information and services, similar to the one described in ICPD-POA. In the same year, there was UN Millennium Summit where the transformation of International Development Goals (IDGs) into the Millennium Development goals (MDGs) took place. However, surprisingly only eight goals instead of nine were presented; the goal on the RH was dropped.[70] Several reasons have been quoted so far among which most cited is the difficulty for the governments to sustain the commitment to broader rights issue, while facing the opposition around the world.[75] However, goals 4–6 still address RH directly i.e. maternal health, infant mortality and HIV/AIDS.

However, after lobbying by many governments, nongovernmental organizations and others, world leaders at the September 2005 UN World Summit in New York endorsed incorporating universal access to reproductive health into the MDGs. A comprehensive review of ICPD at the midpoint to 2015 was recognized in 2004 as ICPD+10, which yet again discovered many countries lagging behind in RH indicator nor they are anyway near to the progress demonstrated in developing regions of the world.[71,72] The 37th session of the United Nations Commission on Population and Development acknowledged that full implementation of the Cairo agenda is essential to the attainment of Millennium Development Goals (MDGs), and that this link must be

stressed at the five year review of the Millennium Declaration. The main barriers identified, however, remain unresolved. These include inadequacies in the healthcare systems, unclear impact of health sector reforms, lack of a national system for government reporting and accountability, negative impact of development institutions and donor policies and inadequate NGOs' policy advocacy capacity.

Knowledge of family planning:

Family planning is hailed as one of the great public health achievements of the last century, and worldwide acceptance has risen to three-fifths of exposed couples. In many countries, however, uptake of modern contraception is constrained by limited access and weak service delivery, and the burden of unintended pregnancy is still large.[1]Several studies in the six geopolitical zones in Nigeria indicate that contraceptive knowledge and awareness, especially among female students aged I5 to 24 years, is very high. In a study conducted in Ilorin, the methods mostly known by respondents were the condom (69.0%), the oral contraceptive pill (OCP. 38.8%), IUCD (29%), and periodic abstinence (32.9%). Unfortunately, all of the studies that showed good knowledge and awareness did not show a strong prevalence of use of contraception. Instead, these studies showed a high level of sexual activity corresponding with a low contraceptive prevalence. The average age of sexual debut in many of the studies ranged between 12 and 20 years, with a mean age of 16 ± 1.2 years. The consequence of high sexual activity and low contraceptive use is an increased frequency of unplanned pregnancies and subsequent induced abortions or unplanned deliveries. Studies reveal that a high percentage of adolescents and young adults have had at least one unwanted pregnancy leading to induced abortion. The reasons given in these studies for not using contraceptives were fear of side effects, objection from their partner, conflicts with their

religious beliefs, objections from family members, not thinking about using contraceptives, not having sexual intercourse to have a baby, and unplanned sexual debut.

Level of use of family planning products:

In Nigeria, contraceptive use and choices vary widely; usually according to type of health facility, geopolitical zone, and within urban or rural settings. Various factors, related to both supply and demand, account for these variations and contribute to the low levels of contraceptive use and choices in Nigeria.

On the supply side are issues such as limited availability, quality, and cost of family planning services. As a consequence of limited availability, many Nigerians (particularly in rural areas) lack access to modern contraceptive and family planning services. In areas where services do exist, their quality is often poor, with inadequate contraceptive supplies, insufficient numbers of trained service providers, poor interpersonal skills on the part of providers, and limited essential equipment.

Research on factors associated with demand for contraceptives and family planning services in Nigeria has identified the relative powerlessness of women (especially in Northern Nigeria), household poverty, low level of education (especially in Northern Nigeria), myths and rumors about modern contraceptive methods, parity, pronatalist attitudes, and widespread preference for male children, as key influences on contraceptive use. In addition to these factors, and especially in northern Nigeria, early marriages and early initiation of sexual activity have contributed significantly to the high fertility and subsequent higher prevalence of maternal and fetal complications. Some common contraceptive choice in Nigeria include:-

a) **Condom**:

According to the 2003 Demographic and Health Survey (DHS), the condom is reported to be the main contraceptive method known of and used by Nigerian women of reproductive age. The extensive marketing of condoms in response to the human immunodeficiency virus (HIV) epidemic, with the active involvement of both government and nongovernmental organizations, has been responsible for this increased awareness and subsequent increase in condom use. Condoms are also the preferred choice for post partum contraception, especially among educated women with high parity. Studies in Nigeria have indicated that because patent medicine stores are common sources of contraceptives and because condoms are readily available over the counter at these stores, there is much less restriction on contraceptive purchases and use compared with the family planning clinics and health facilities where there are more restrictions.

b) Oral Contraceptive Pill (OCP)

OCPs, like the condom, are readily available over the counter at patent medicine and pharmacy shops in Nigeria. They are also available at the health facilities, and are the second contraceptive method of choice for women of reproductive age, particularly young unmarried females and students. A significant problem in Nigeria is a general lack of adequate information about the OCP. The myth that prolonged use of the OCP leads to permanent sterility has limited its use in Nigeria and may explain why most young females in Nigeria, especially students, prefer to use abortion instead of contraception for unwanted pregnancy. Also, the protective effects of OCPs are virtually unknown by the majority of women in the Nigerian population.

c) Intrauterine Contraceptive Device (IUCD)

The IUCD is very popular and widely used in Nigeria, particularly by older married women. Studies carried out in the Nigerian cities of Lagos, Benin, Ibadan, and llorin specifically concerning use of and reasons for discontinuation of the IUCD indicate that the majority of women in these areas are in the age range 31.7 $\pm$ 5.7 years with a mean parity of 4.0. The most common reason for discontinuation of IUCD use was a desire for pregnancy, especially among those younger than 35 years. Other reasons for discontinuation were side effects (mainly heavy menstrual bleeding), spousal disapproval, fear of infertility, and menopause. Experiences of "having a foreign body" or a missing IUCD and expulsion were also reasons for discontinuation. In many of these instances, the levonorgestrel IUCD should be considered because it tends to reduce menstrual bleeding and has a longer duration of action which would ultimately lead to a reduction in the high IUCD discontinuation rate. Unfortunately, the levonorgestrel IUCD is not available in Nigeria. It is envisaged that the introduction of this device in many centers in Nigeria would lead to an increased acceptance of this method by multiparous and grand multiparous women. IUCDs are also a common post partum contraceptive choice, especially for older women of high parity.

d) Female Sterilization

Female sterilization by tubal ligation is not a common or acceptable contraceptive choice in Nigeria. However, this method is commonly used worldwide, especially in developed countries and in some developing countries in Asia and South America. Many factors can influence decision-making about sterilization in Nigeria, including religion, ignorance, and superstition based on ancient beliefs, even among more literate members of the community. The acceptability

of sterilization in Nigeria and other developing countries might be influenced by the high cost of the procedure, scarcity of skilled providers (especially in rural areas), and fear of surgical complications. Nigerian studies have shown that the demand for tubal ligation is low, but is commonly accepted in conjunction with another surgical procedure, such as a cesarean section or laparotomy for repair of uterine rupture. Possible surgical complications when using the Pomeroy's technique of tubal ligation via laparotomy or the mini- laparotorny route (the latter being the most common) include uterine perforation, bladder and intestinal injuries, and intra-abdominal bleeding, although the occurrence of these complications was found to be minimal.

f) Emergency Contraception

Knowledge and attitudes towards the use of emergency contraception (EC) have been reported by a national cross-sectional survey of the Nigerian population. The various groups surveyed included unmarried women in the community, female undergraduate students, health care providers, private medical practitioners, and men. All studies concluded that there is very poor knowledge of EC in Nigeria, even among private medical practitioners. There are very few programs in Nigeria designed to increase the awareness of EC in spite of the very high maternal mortality rate associated with induced abortions which occur as a consequence of unwanted pregnancies. In a cross-sectional sample of potential providers of EC conducted by the Society for Family Health, 81% approved of EC. The reasons cited for disapproval of EC in this study included religion (5%), potential side effects (3%), and the belief that EC leads to permanent infertility (29%). In the same Society for family Health survey, only 80% of the providers had training in EC, only two providers knew both the correct dose and correct timing of EC, and no provider knew both the correct dose and timing for Postinor. Private medical practitioners

provide a substantial proportion of family planning and reproductive health services in Nigeria, but the study by Okonofua et al in 2008 showed that while 79.9% of doctors correctly described EC methods, only 23% reported that they had EC products in their clinics, and only 13.8% used the correct brand and doses currently available in Nigeria. Similarly a large proportion of the doctors did not know the exact timing of EC in relation to sexual intercourse, while only a few gave correct names and dosages of administration. Traditional fertility methods for post—coital EC use in Nigeria include use of gin, codeine tablets, and potash mixed with blue and lime taken with pepper seeds.

Overall, 15 percent of currently married women in Nigeria are using a contraceptive method, indicating only a two percent point increase from the 2003 NDHS. The majority of contraceptive users rely on a modern method (10 percent of currently married women), and 5 percent use traditional methods. Among the modern methods, injectables (3 percent), male condoms (2 percent), and the pill (2 percent) are the most common methods being used. The practice of all other modern methods is far less (under 1 percent). Interestingly, 3 percent use withdrawal as a method of contraceptio.[47]

Factors determining utilization of family planning services:

Although, contraceptive usage has increased in recent years, consistent reliance on effective form of contraception remains low[23]. Reasons for inconsistent use are not easily characterized as there are as diverse as they are as complex. Although continuous correct use of contraceptives at all periods of risk can greatly reduce the likelihood of unintended pregnancy, women have difficulty adhering to such a regimen over a long period. Women attitude towards pregnancy prevention, service providers, experience with contraceptive methods, socioeconomic and sexual partner's characteristics are some factors that affects the use of contraceptives. Major factors influenced

the choice of contraceptives for users and these were convenience and effectiveness, so where users are offered a range of commodities, effectiveness and convenience of usage will likely increase.[22] Using the 1990 National Family Fertility Size, a study in urban Ethiopia found that the number of surviving children and ideal family size are the most important determinants of family planning practices in urban Ethiopia.[23] The effect of number of living sons in the use of contraception shows a highly significant result after controlling the other predictors. The probability of using contraception among women with two living children and those having two sons is substantially higher (70 per cent) than who do not have any son (36 per cent). Higher number of sons leads to higher probability of using contraception. It has also been observed in earlier studies that couples with fewer sons are more likely to continue to have children and less likely to use contraceptive.

CHAPTER THREE

METHODOLOGY

3.1. Study Area

Kano state is the most populous state in Nigeria with a projected population of 10,685,000 inhabitants (2010 projection from 2006 census). It has an almost equal distribution of males (51%) and females (49%). It is located in the northern part of the country within the north-west zone of the federation. The state is bounded to the north by Jigawa and Katsina states, to the south by Kaduna and Bauchi states, to the west by Kaduna and Katsina states and to the east by Jigawa and Bauchi states. Kano State has 44 local government areas and a land mass of 20,760 square kilometers. The geographical coordinates are 20^0 37' North, 9^0 29' East, 9^0 33' South and 7^0 43'West. The study was conducted in three selected rural LGAs (Ungogo, Dawakin-Tofa and Wudil).

Ungogo local government area is to the north of the city of Kano, it has an area of 204 km² and a population of 369,657 at the 2006 census. Most of the inhabitants are farmers and traders, mostly muslims and are polygamous.

Dawakin Tofa local government area has an area of 479 km² and a population of 247,875 at the 2006 census. Most of the inhabitans are farmers and Fulani herdsmen, though some inhabitants are seasonal migrants (they move from one place to another searching for greener pasture). They are muslims and mostly polygamous.

Wudil local government area has an area of 362 km² and a population of 185,189 at the 2006 census. Most of the inhabitants are fishermen and farmers, muslims and mostly polygamous.

3.2. Study Design

It is a community based cross-sectional household study that was conducted to investigate use and factors associated with utilization of family planning services in Kano state, Northern Nigeria.

3.3. Study Population

The study population comprised of all married women of child-bearing age (15-49 years) residing in Ungogo, Dawakin-Tofa and Wudil Local Government Areas.

3.3.1. Inclusion Criteria

1. Married woman at the time of the study.
2. Woman of child-bearing age (15-49 years).
3. Woman residing in Dawakin-Tofa, Ungogo or Wudil LGAs for atleast one year.

3.3.2. Exclusion Criteria

1. Woman with coexisting premorbid condition such as cancer, HIV etc

3.4. Sample Size Determination

The minimum sample size for the respondents was determined using the formula for descriptive health studies;

$$n= (z_\alpha+z_\beta)^2 pq/d^{2\ 65}$$

z_α=confidence level

z_β= power of the study (80%)

p= prevalence of contraceptive use in North-West Nigeria (4%) obtained from National Demographic and Health Survey (NDHS) 2013

q= 1-p

d= desired level of precision (5%)

Adjusting for non-response (NRR) - set at 10%

$n=(z_\alpha+z_\beta)^2pq)/d^2$

$n= (1.96+ 0.8)^2(0.04)(0.96)/0.05^2$

n= (21.55)(0.0384)/0.0025

n=0.82752/0.0025

n=331

With non-response rate of 10%, n=364

Therefore the minimum sample size at 95% confidence interval and precision level of 0.05 is 364.

Six (6) focus group discussions were conducted for the qualitative component of the study.

3.5. Sampling Technique

Multistage sampling technique was applied. Kano State is stratified into 3 according to senatorial zones (Kano central, Kano north and Kano south).

First stage was selection of one rural LGA from each senatorial zone using simple random sampling (SRS) by balloting. Dawakin-Tofa, Ungogo and Wudil LGAs were selected.

Second stage was selection of two (2) wards from each of the 3 selected LGAs using SRS by balloting. Consequently the wards selected were: Kwa, Tattarawa, Gayawa, Ungogo cikin gari, Indabo and Dagumawa.

Third stage was selection of three (3) settlements from each of the selected 6 wards using simple random sampling by balloting. The settlements selected were: Chedi babbar ruga, Romi and Buruntumau for Kwa ward, Zaura, Yarrutu and Fango for Tattarawa ward, Doka, Kunture and Fanisau for Ungogo cikin gari, Rimaye, Koranke and Dan-kunkuru for Gayawa ward, Katai, Faudan and Indabo cikin gari for Indabo ward, Yar-lahadi, Sabongarin dagumawa and Dagumawa cikin gari for Dagumawa ward.

Fourth stage was selection of households by spinning a bottle at the centre of the settlement to select the first house and subsequent houses where selected consecutively.

Fifth stage was selection of respondents within the households using simple random sampling by balloting among eligible respondents whenever a polygamous family setting is encountered.

3.6. Study Instruments

(a) A pre-tested, semi-structured, interviewer- administered questionnaire (appendix A) that was developed was used to seek information about socio-demographic characteristics, level of knowledge, attitudes and practice as well as determinants associated with utilization of family planning services.

(b) A focus group discussion guide and tape recorder were used for the qualitative component of the study.

3.7. Data Collection Methods

Six (6) research assistants were recruited and trained on the questionnaire administration and note-taking during focus group discussions. The questionnaire was pre-tested among women that

met the eligibility criteria residing within Kano metropolis. Relevant information was obtained through face to face interview and questionnaire was administered.

During the period of data collection, the interviewers collected the information from the respondent using the questionnaire and these were submitted to the investigator daily. Questionnaires were checked for errors and omissions and corrected immediately.

During focus group discussions, notes were taken and voice recorded using the tape recorder.

3.8. Data Management

3.8.1. Measurement of variables

Exposure variables measured include age, educational status, socio-economic status, occupation, parity, religion, male involvement, access to health facility and family setting.

Outcome variables measured include knowledge of family planning services, attitude towards family planning services, utilization of family planning services and factors associated with utilization of family planning services.

Possible confounders include age, educational status and socio-economic status.

Knowledge and attitude were scored by assigning 2 points to each of the 5 options on the questionnaire answered correctly and 0 to an incorrect response. 50 percent and more was regarded as good knowledge/attitude while less than 50 percent was regarded as poor knowledge/attitude.

3.8.2. Statistical Analyses

Quantitative data was analyzed using SPSS software and MS Excel; uni-variate analysis (frequencies and proportions), bi-variate analysis (chi-square tests) and multi-variate analysis (regression analysis).

Qualitative data was analyzed using content analysis; responses for the individual questions were categorized, similar responses grouped and then frequencies were obtained.

3.9 Quality Assurance Procedures

To ensure the data collected and information obtained was of high quality, all personnel were selected carefully. Training of all data collectors and pretesting was done to ensure that all personnel understood the use of the data collection instruments.

Three weeks before the data collection, these questionnaires were pre-tested in a community residing within Kano metropolis and adjusted as follows:

a. All ambiguous questions were reviewed.
b. Some questions seemed repetitive. These were reviewed and questionnaire was restructured accordingly.

6 research assistants, out of which 3 have participated in health related research previously were recruited and trained over a 3 day period to ensure standards. At the training, the research assistants were introduced to study design, data collection method and obtaining consent. The assistants could speak English, pidgin English, and Hausa. Before interviews were conducted in these communities, advocacy was conducted to the traditional heads of the selected rural communities. A letter of introduction and a copy of the ethical clearance were given to each of the traditional heads.

3.10. Ethical Considerations

a) Ethical clearance for this study was issued by the scientific and ethical committee of Ahmadu Bello University Teaching Hospital, Zaria. (Appendix C)

b) Permission was also sought from the authorities of the respective local government areas prior to the commencement of the study.

c) Written informed consent was obtained from all respondents (Appendix B).

The consent was obtained after the respondent had been provided with all the necessary information about the study in non-technical language.

3.11. Limitations

1. Cultural influences and beliefs may hinder the respondents from giving clear responses. Therefore, research assistants were recruited from these communities in order to respect their culture and to ease acceptance by the community members.
2. Perception by respondents that the interviewers want to impose the idea of contraception use on them may arise. Hence, the research assistants were adequately trained on conducting interviews thereby minimally reducing the chances of perception of contraception imposition among respondents.

CHAPTER FOUR

RESULTS

4.1. Baseline socio-demographic data

In this study, a total of 364 married women of reproductive age group with a response rate of 100 percent were recruited and the findings are presented in the following tables.

Table 1: Age distribution of child-bearing women in Dawakin-Tofa, Ungogo and Wudil LGAs, Kano State, 2015

AGE IN YEARS	FREQUENCY	PERCENTAGE (%)
15-24	139	38.2
25-29	78	21.4
30-34	57	15.7
35-39	38	10.4
40-44	23	6.3
45-49	29	8.0
Total	364	100

A large proportion of the respondents (38.2%) were aged 15 to 24 years. Women aged 45 to 49 years constituted only 8.0% of the respondents.

Table 2: Educational status of child-bearing women in Dawakin-Tofa, Ungogo and Wudil LGAs, Kano State, 2015

EDUCATIONAL STATUS	FREQUENCY	PERCENTAGE (%)
No formal education	167	45.9
Primary	101	27.7
Secondary	47	12.9
Tertiary	18	13.4
Total	364	100

Distribution of respondents according to educational status depicts that a large proportion of the respondents (45.9%) had no formal education and a few (13.4%) had tertiary education.

Table 3: Distribution of child-bearing women in Dawakin-Tofa, Ungogo and Wudil LGAs according to parity, Kano State, 2015

PARITY	FREQUENCY	PERCENTAGE (%)
0-2	120	33
3-5	109	30
>5	135	37
Total	364	100

The distribution of respondents according to parity depicts that 33% have had 2 or less children, 30% have had 3 to 5 children and 37% have more than 5 children. This shows the respondents uniformly ranged from nullipara to grandmultipara.

4.2. Other tables based on the specific objectives

Table 4: Age and knowledge of Family Planning Services

Age group (yrs)	Good knowledge of FPS Count	Poor knowledge of FPS Count
15-24	130	9
25-29	72	6
30-34	50	7
35-39	33	5
40-44	21	2
45-49	29	0
Total	335	29

χ^2= 5.800, df = 5, *p* = 0.326

Majority of all the respondents had good knowledge of family planning, though there is a decline as age increases. There was no statistically significant association between age and knowledge of family planning (p value of 0.326).

Table 5: Educational status and knowledge of Family Planning Services

Educational status	Good knowledge of FPS Count	Poor knowledge of FPS Count
No formal education	4	163
Primary	5	25
Secondary	3	98
Tertiary	17	35
Total	29	335

χ^2= 43.104, df = 5, p < 0.0001

The association between educational status and knowledge of family planning shows that a large proportion of the respondents with poor knowledge of family planning had no formal education (48.7%). 58.6% of the respondents with tertiary education had good knowledge of family planning. Association between educational status and knowledge of family planning is statistically significant (p value less than 0.0001).

From the focus group discussions (FGD) conducted, majority of the respondents knew about the existence of family planning but had some misconceptions. There was a clear lack of appropriate knowledge. A discussant said "family planning prevents us from getting pregnant by harming our wombs, so we may not be able to bear more children".

The source of information about family planning is mainly through media programs and friends. A discussant said "we hear much about it on radio and also discuss with friends when we meet at naming ceremonies". The family planning methods mentioned include oral contraceptive pills,

injectables and male condoms. A few of the respondents knew about intrauterine contraceptive device (IUCD). A discussant said “there is one injection given every three (3) months to prevent one from getting pregnant”. The respondents made it clear that the purpose of family planning is to prevent unplanned pregnancies.

Table 6: Age distribution and utilization of FPS among child-bearing women in Dawakin-Tofa, Ungogo and Wudil LGAs, Kano State, 2015

Age group (yrs)	Utilizing FPS Count (%)	Not utilizing FPS Count (%)
15-24	36 (33.3)	103 (40.2)
25-29	29 (26.9)	49 (19.1)
30-34	19 (17.6)	38 (14.8)
35-39	15 (13.8)	23 (9.0)
40-44	4 (3.7)	19 (7.4)
45-49	5 (4.6)	24 (9.4)
Total	108 (100)	256 (100)

χ^2= 8.980, df = 5, p < 0.110

Respondents utilizing family planning services are those that are currently using or have ever used a family planning method while those not utilizing family planning services are those that have never used a family planning method.There is no statistically significant association between age and utilization of family planning services (p value less than 0.110).

Table 7: Educational status and utilization of FPS among child-bearing women in Dawakin-Tofa, Ungogo and Wudil LGAs, Kano State, 2015.

Age group (yrs)	Utilizing FPS Count (%)	Not utilizing FPS Count (%)
No formal education	45 (41.7)	122 (47.7)
Primary	7 (6.5)	23 (8.9)
Secondary	39 (36.1)	62 (24.2)
Tertiary	17 (15.7)	48 (18.8)
Total	108 (100)	256 (100)

χ^2= 8.753E2, df = 10, p < 0.0001

Among the respondents with no formal education, 47.7% were not utilizing family planning services while 41.7% were found to be utilizing the services. This finding could be as a result of those with no formal education forming a large proportion (48.7%) of respondents in this study. 36.1% of those utilizing had secondary education while 15.7% had tertiary education. There is a statistically significant association between educational status and utilization of family planning services (p value less than 0.0001).

Table 8: Factors associated with utilization of family planning services among child-bearing women in Dawakin-Tofa, Ungogo and Wudil LGAs, Kano State, 2015

Determinants of utilization of FPS	Adjusted Odds Ratio (aOR)	*p* value	95% Confidence Interval
Age	0.91	**0.01**	**0.841 – 0.977**
Educational status	1.76	0.73	0.069 – 44.785
Socio-economic status	0.964	0.895	0.557 – 1.667
Parity	1.118	0.062	0.995 – 1.257
Religion	0.033	**0.034**	**0.001 – 0.767**
Male involvement	26.058	**<0.0001**	**7.400 – 91.763**
Access to health facility	1.376	0.560	0.470 – 4.026
Family setting	2.877	**0.007**	**1.344 – 6.159**

Age, religious misconception, male involvement and family setting are found to be statistically significant determinants. Those respondents whose husbands' are involved are 26 times more likely to utilize family planning services. Also those in monogamous setting are about 2.9 times more likely to use a family planning method.

Focus group discussions showed most of the discussants have never used any family planning method. Their non-usage is mostly due to husbands' non-approval, fear of side-effects and religion. One discussant said "I have 7 children and would want to use a family planning method but my husband has refused". Another discussant said "it is prohibited in my religion". Some

linked religion misconception and husband non-approval. Distance to closest health facility was not found to be an important reason for non-utilization. Those using a method went to health facilities far from their homes (greater than 5 kilometers) in order to get the service. Most of the discussants using a method bought the pill or injection over the counter but admitted administration of the injection at health facilities was free. These suggest that the family planning commodities may not be readily available at the health centres.

CHAPTER 5

DISCUSSION

This study sought to identify the determinants of utilization of family planning services amongst women of child-bearing age in rural areas of Kano State. This is very relevant given the high total fertility rate among Nigerian rural women (6.2/ woman) compared to women residing in urban areas (4.7/woman). Also the maternal mortality rate in Nigeria is unacceptably high (545/100,000 population).

Majority of the participants were in the 15-24 year age group. According to NDHS 2013, this is the age group that showed a steady rise in fertility rate. Majority of those not utilizing family planning services fall within this age group though no statistical significant association was found between age and family planning services (FPS) utilization.

Most of the 364 participants had no formal education, whereas a small proportion had tertiary education. Of the women with no formal education, about half (47.7%) are not utilizing FPS. In this study, a good proportion of the respondents who had tertiary education were also not utilizing FPS. It would thus seem that higher education is not a predictor of utilizing FPS among these participants; however a statistically significant association has been established between educational status and FPS utilization. In a study conducted by Moronkola in South-West Nigeria, knowledge about contraception was high though this pattern is expected in light of much enlightment that is on-going on the issue of family planning in the country; more so majority of respondents' source of awareness was media.

Findings from this study which shows as age is advancing, level of utilization of family planning services is decreasing contrasted with findings from a study conducted by Olugbenga A.I. et al among women in rural communities in South-Western Nigeria where association with age was not found to be significant (77% of the respondents 35 years and above were utilizing family planning services).

Findings from this study of educational attainment positively associated with family planning services utilization corroborated with findings from NDHS 2013 where a larger number of respondents who had tertiary education were more likely to use a family planning method compared to those with lower grades of education ($p<0.01$). But this study finding contrasted with findings from a study in South-Western Nigeria where no significant association was found between contraceptive use and educational status; these could be due to the fewer number of respondents that had no formal education or primary school education level in the study. Generally, education is a major determinant of utilization of health services. This is achieved by improving health literacy and empowering individual to make informed choices about modern health facilities. In addition, contraceptive use has been shown to affect the timing for fertility among career women. For instance, late marriage due to time spent studying has been documented to facilitate more use of contraception among educated women than illiterates.[63,64]

Muslims made up the majority (99.2%) of the respondents; only 0.8% were Christians. Religion has been found to be a determinant in this study. The relationship between religion and family planning has been documented by previous studies and religion has been recognized as a very important determinant ff contraceptive use.[65,66] This may explain the significant association

between religion and ever used family planning methods with Muslims having a low uptake of family planning methods as in this study. Also similar to findings from NDHS 2013 where Christians were more likely to utilize family planning services. Several other studies have showed Christians having a higher uptake than Muslims.

There is a significant association between family setting and family planning services utilization with more women in monogamous family settings using family planning methods as compared to those in polygamous family setting. This may be a reflection of the insecurity that exists among women trying to outwit each other in the number of children in order to secure their positions in the family and in the will when the husband dies. Low contraceptive use among rural women found in this study is similar to findings in studies by Bogale et al, Arbab et al, and Olalekan et al which showed a significant association between contraceptive use and place of residence, as women who live in urban areas had greater chance of being more educated, more access to health facilities, greater exposure to mass media messages, more appropriate knowledge about modern contraceptive issues than their counterpart who dwell in the rural areas where unmet need for family planning has been shown to be high.[67,68,69]

In conformity with findings in this study regarding age, C.L Ejembi et al in a study conducted among rural Hausa women in Zaria environs, northern Nigeria found statistical significant association between age ($p<0.001$) and education ($p<0.05$) and level of knowledge of contraceptive methods. Utilization was very low, only 1.8% had ever used a method while 0.9% was using a method at the time of the study. The importance of contraceptives in expanding women's choices, giving them control over their lives and reducing the incidence of high risk

pregnancies have been well documented. However many factors have been found to affect a woman's fertility regulation decisions; they include the status of the woman, the survival chances of her children and knowledge of, availability of, access to and quality of family planning services. The very low status of the women in the rural areas and cultural and religious aversion to family planning may be working in synergy with health services related factors to limit utilization of family planning services in the localities.

Findings from this study on source of family planning information revealed that media, friends and hospitals constituted their major sources. This is comparable to findings documented in studies conducted in Osogbo, Jos and Sokoto where health personnel, the media and friends accounts for their major of information while in Zaria, most respondents obtained their information from nurses and midwives also. This is a demonstration of the vital role played by health workers and the media in health information dissemination particularly concerning family planning. On the other hand, a study carried out in Ilorin among young female students revealed that magazines and school lectures were major sources of information. The variation in sources of information could be attributable to difference in age groups studied and marital status. Since the married if pregnant in the course of attending antenatal clinic or child immunization clinic at the health facilities may have opportunity to receive information regarding family planning.

The commonest family planning methods used in this study were the oral contraceptive pills and the injectables. This is consistent with the study findings in Aba and Benin city where injectables (71.8%) and oral contraceptive pills were the preferred family planning methods respectively. Although in Sokoto, Zaria, Jos and Osogbo, intrauterine contraceptive device was an additional

inclusion and top on the list of family planning methods amongst clients. On the contrary, condom was documented as the most patronized method in another study carried out in Jos (59.5%) and a rural community in Imo state (24.4%) among the clients. The diverse variation in contraceptive methods utilization among respondents could be attributable to varying location of study which influences types of family planning methods available as well as accessibility of competent staff in insertion of IUCDs and implants.

The unmet need for contraception is high among the respondents with about three-quarter not on any contraceptive method. This corroborates the work of Westoff (2006) that reported about 1 in 5 married women of childbearing age (22%) in Africa has an unmet need for contraception, with a higher percentage among rural women. There is therefore a need for more work to be done to reduce the unmet need for contraception among women because reduced unmet need for contraception is an indicator of progress toward two of the United Nations Millenium Development Goals – reducing maternal mortality and reversing the spread of HIV/AIDS and contributes directly or indirectly to achieving all eight goals. Majority of the participants lack appropriate knowledge on FP and its methods. During focus group discussions (FGDs), there were clear misconceptions about contraception and the attitude towards it was poor. The methods commonly known are the oral contraceptive pills (OCPs), injectables and male condoms. A few of the women knew about intrauterine contraceptive device (IUCD).

The main reasons given by respondents for not utilizing FPS are husband non-approval, religious misconception and fear of side effects. A large proportion did not use a FP method because they perceive it to be prohibited in their in their religion.

CHAPTER 6

CONCLUSION AND RECOMMNENDATIONS

6.1 Conclusion

This study has established that women of child-bearing age in rural areas of Kano state have low level of knowledge on family planning and its methods. Attitude towards family planning is poor with cultural and religious misconceptions playing vital roles. Level of use of family planning methods is also low. Established determinants of utilization of family planning services include male non-involvement, family setting, age and religion.

6.2 Recommendations

The following recommendations are hereby made to the

A. State Government:

1. Health education of the people in the rural areas should be intensified by the health education unit of the primary health care management board.
2. Conduct research on causes on husband non –approval or male non-involvement as regards to utilizing FPS.
3. Intensify advocacy to religious leaders in the community as well as conduct interactive sessions so as to enlighten them on the benefits and urgent need to clarify issues on status of religion regarding family planning to their followers.
4. Promote community involvement in public health programs.
5. There should be concerted efforts to the policy makers to intensify awareness on utilization of modern methods of contraception.

6. The State Ministry of Health in collaboration with the primary health care management board should roll out more programmes such as organizing workshops and seminars to educate married couple on the benefits of family planning practices. This will bridge the gap between awareness and knowledge and practices of family planning.

B. Family planning service providers:

1. Community-based family planning clinics need to be expanded and strengthened in the rural areas so as to disseminate information and provide counseling on family planning practices and contraceptive usage. This will help married couple choose appropriate methods so as to reduce the fear of side effects associated with contraceptive usage.
2. Family planning services should be incorporated in all public hospitals and clinics within the rural areas with the view of increasing access to and supply of contraceptives. This will help reduce if not eliminate the accessibility constraint.
3. Traditional leaders, opinion leaders, religious leaders and the community as a whole should be made part of the awareness and practice campaign. This will help reduce the negative perceptions society have about people who practice family planning.

C. Clients (WCBA):

1. Client orientation and empowerment with regards to family planning.
2. Clients should be encouraged to be committed users of family planning services.
3. Clients should be encouraged to give feedback on the service satisfaction.

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APPENDIX A

QUESTIONNAIRE

Serial no……

1.0: SECTION A: SOCIO-DEMOGRAPHIC CHARACTERISTICS OF RESPONDENT"S

1.1: Age (years)…….

1.2: Marital status: Single ( ) Married ( ) Divorced ( ) Separated ( ) Widowed ( )

1.3: Religion: Islam ( ) Christianity ( ) Others ( )

1.4: Ethnic group: Hausa/Fulani ( ) Yoruba ( ) Igbo ( ) Egbira ( ) Others ( )

1.5: Educational status: None ( ) Primary ( ) Secondary ( ) Tertiary ( ) Others ( )

1.6: Occupation: House wife ( ) Trader ( ) Civil servant ( ) Others ( )

1.7: Educational status of Husband: None ( ) Primary ( ) Secondary ( ) Tertiary ( ) Others ( )

1.8: Occupation: Farmer ( ) Trader ( ) Civil servant ( ) Businessman ( ) Others ( )

1.9: No of co-wives: None ( ) One ( ) Two ( ) Three ( ) Four ( ) Others ( )

1.10: No of children/family size ( )

2.0: KNOWLEDGE OF FAMILY PLANNING AMONG WOMEN OF REPRODUCTIVE AGE IN RURAL AREAS

2.1: Do you know family planning? Yes ( ) No ( )

2.2: What is your source of information about family planning?

a. Media programmes ( ) b. Health workers ( ) c. Friends and relatives ( ) d. Pamphlets and posters ( ) e. Others (specify) ……..

2.3: Can you mention the various method(s) of family planning you know?

a. withdrawal ( ) b. natural family planning ( ) c. oral contraceptives pills ( ) d. IUDs ( ) e. lactational ammenorrhoea ( ) f. male condom ( ) g. female condom ( ) h. female sterilization (tubal ligation) i. implants ( ) j. injectables ( )

k. cervical caps and diaphragm ( ) l. male sterilization ( ) m. others (specify)……

2.4: What do you think is the purpose of family planning?

a. to prevent unplanned pregnancies ( ) b. to prevent high risk pregnancies ( )

c. to guard against short interval between pregnancies ( ) d. Others (specify)……

3.0: ATTITUDE AND PRACTICE OF FAMILY PLANNING AMONG RURAL WOMEN

3.1: What is your opinion about family planning? Good for one's reproductive health ( ) Bad for one's reproductive health ( ). If good, go to question 3.3

3.2: if it is bad practice, why do you think so? It is against religious teaching ( ) It will limit large family size ( ) It is a western agenda to control population ( ) others (specify)……

3.3: Have you ever used any family planning methods? Yes ( ) No ( )

3.4: If yes, what method did you used? .....

3.5: Are you currently using any method? Yes ( ) No ( )

3.6: If no, what made you to stop?

Side effects ( ) husband's command ( ) to get another child ( ) Others (specify)……

3.7: If yes, which method are you using? a. withdrawal ( ) b. natural family planning ( ) c. oral contraceptives pills ( ) d. IUDs ( ) e. lactational ammenorrhoea ( ) f. male condom ( ) g. female condom ( ) h. female sterilization (tubal ligation) i. implants ( ) j. injectables ( ) k. cervical caps and diaphragm ( ) l. male sterilization ( ) m. others (specify)……

3.8: What made you to choose the aforementioned method?

a. health workers advice ( ) b. religious reasons ( ) c. husband ideas ( ) d. advice by friends and relatives ( ) e. other (specify)…….

3.9: Did your husband know you ever used any family planning method/ Yes ( ) No ( )

3.10: If no, what are the reasons? ….....

3.11: If yes, did he approve it? Yes ( ) No ( )

3.12: Has your husband ever used any form of family planning method? Yes ( ) No ( )

3.13: if yes, what type? ….....

3.14: If you have not used any method, would you like to use it now? Yes ( ) No ( )

3.15: If not, why? ……

4.0: DETERMINANTS OF UTILIZATION OF FAMILY PLANNING SERVICES

4.1: Distance to the closest health facility: less than 5 kilometers/ about 30 minutes walking distance ( ) greater than 5 kilometers ( )

4.2: Estimated family income: <N5000.00 ( ) N5000.00 – N10,000.00 ( ) N10,001 – N20,000.00 ( ) >N20,000.00 ( )

4.3: Religious beliefs: Yes ( ) No ( )

4.4: Does your partner approve family planning: Yes ( ) No ( )

4.5: Side effects: Yes ( ) No ( )

4.6: cost of family planning services: a. <N1000.00 ( ) b. N1000 – N5000.00 ( )

c. >N5000.00 ( )

APPENDIX B

CONSENT FORM

Title of Research

Project……

……

……..

……..

I have read information provided above (it has been adequately explained to me)

I have had the opportunity to ask questions about it and any questions I have asked have been answered to my satisfaction. I voluntarily accept to participate in this study and understand that I have the right to withdraw from the study at any time.

Yes ☐ **No** ☐

……

Signature/thumb print of research respondent Date

……. ……

Signature/thumb print of person obtaining consent Date

……. ……

Printed name of person obtaining consent

Address

GSM/Telephone Number……

APPENDIX C

ETHICAL APPROVAL

HEALTH RESEARCH ETHICS COMMITTEE

AHMADU BELLO UNIVERSITY TEACHING HOSPITAL

SHIKA - ZARIA, NIGERIA.

E-mail: abuth@yahoo.com Website: www.abuth.org

Chairman of Board: Chief. Shuaib Oyedokun Afolabi *Fnil*
Chief Medical Director: Prof. Lawal Khalid, *MBBS, FMCS, FWACS, FRCS(ED) mnl*
Chairman, Medical Advisory Committee: Prof. Abdullahi Mohammed, *MBBS, FWACP, FICS*
Director of Administration: Barr. Ishak Bello, *LL.B, BL., LL.M, PGDM, AHAN, FCAI*

ABUTHZ/HREC/36/2014

Our Ref:

Your Ref:

Date: 23rd Sept. 2014

ABUTH HREC FULL ETHICAL CLEARANCE CERTIFICATE

Determinants of Utilization of Family Planning Services among Child Bearing Women (15-49 years) in rural areas, Kano, Northern Nigeria.

ABUTH Ethics Committee assigned number:	-	**ABUTHZ/HREC/L29/2014**
Name of the principal Investigator:	-	**Amina Abdullahi Umar**
Address of the Principal Investigator:	-	**Dept of Community Medicine Faculty of Medicine ABU Zaria**
Date of receipt of valid application:	-	**28/8/ 2014**
Date of meeting when final determination on ethical approval was made:	-	**3rd & 4th Sept, 2014**

This is to inform you that the research described in the submitted protocol, the consent forms and other participant information materials have been reviewed and ***given full approval by the Health Research Ethics Committee.***

Please note: this approval dates from **25th September, 2014– 25th September, 2015**

No participant recruitment into this research may be conducted outside these dates.

All informed consent forms in this study must carry the ABUTH HREC number assigned to this research and the duration of ABUTH HREC approval of the study.

This HREC expects that you submit your application as well as an annual report for ethical clearance renewal 3 months prior to expiration of study dates. This is to enable you obtain renewal of your approval and avoid interruption of your research.

If there is delay in starting the research, please inform the ABUTH HREC so that starting dates can be adjusted accordingly.

No changes are permitted in the research without prior approval by ABUTH HREC, except in circumstances outlined in national code for Health Research Ethics: http://www.nhrec.net.

ABUTH HREC reserves the right to conduct compliance assessment visits to your research site without prior notification.

Prof. A. I. Mamman
Chairman, ABUTH HREC