

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

One of the critical indicators of global population change with severe socio-demographic, cultural and economic implications on maternal and children wellbeing is unintended pregnancy (McLean & Thulin, 2022). By definition, any conceptive fertilization occurring in a time of no such craving or aspiration by any of the partner either married or unmarried are termed unintended or mistimed pregnancies (Blondel et al., 2023; Mihretie et al., 2023). According to Ameyaw et al. (2019) a pregnancy is unintended if it occurs when a child is not desired (unwanted) or not anticipated at that particular time (mistimed). It is estimated that two hundred and eight million pregnancies occur worldwide each year, with forty-six percent of them becoming unintended (Bearak et al., 2018). Globally, one hundred and twenty one million unintended pregnancies occurred between 2015 and 2019 of which 6 out of 10 of them ended in induced abortion (World Health Organization, 2023). A quarter of unintended pregnancies happen in Africa and the average unintended pregnancy rate in Sub-Saharan Africa is 33.9 percent (Bain et al., 2020). Also, more than fourteen million unintended pregnancies were reported in Sub-Sahara Africa annually by the United Nations (2022). Despite decreases in the rate of unintended pregnancies in all regions over the past three decades, nearly one in ten women in sub-Saharan Africa, Western Asia and Northern Africa, and Oceania (excluding Australia and New

Zealand) continue to experience an unintended pregnancy every year (Bearak et al., 2020).

In a similar dimension, Ampt et al. (2018) opined that the rate of unintended pregnancies in Sub-Saharan and other low-income countries vary between 7.2 and 59.6 per 100 person-years. The highlighted scenarios of unintended and often unwanted or mistimed pregnancies have had divergent and devastating challenges to both the mother and child's health and also socio-economic conditions at distinct geographical locations and scales within this 21st Century; thus, making it one of the cardinal issues of global health concerns. Bearak et al. (2018) acknowledges unintended pregnancies as both a cause and a consequence of socioeconomic inequalities in the society. Unintended pregnancy is one of the most serious public health problems that impose major health, economic, and psychosocial costs on individuals and communities, as well as significant emotional damage to women, families, and society (Mulatu et al., 2017).

The United Nations Sustainable Development Goals (UN, 2015a) Target 3.7 stresses that by the year 2030, it will ensure universal access to sexual and reproductive health-care services, including family planning, information and education, and the integration of reproductive health into national strategies and programmes. Similarly, Target 3.8 seek to achieve universal health coverage, including financial risk protection, access to essential quality health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all. Unfortunately, the concerted attempts by individuals, groups, government, and non-governmental agencies to mitigate or control the issue of unintended pregnancies had received a

passing attention with mixed feelings among religious and traditional groups especially in policy dimensions that anchor on abortions, use of contraceptives, sex abstinence, and other birth control measures in African countries and Nigeria in particular.

Amidst recent concerns for and responsiveness to reproductive health care delivery, Sachs et al., (2024) progress report on United Nations Sustainable Development Goals (UNSDG) depicts dynamism in implementation between and among countries and regions, but mostly with very high level of commitments by the developed and allied high-income countries. The low- and middle- income countries such as Nigeria tend to be fiddling from their commitments in terms of sustainability in financial investments and policy implementation on reproductive health. The constraints of access as well as supply and demand fluxes to sustainable utilization of contraceptives as modern family planning strategy among sexually active women of reproductive ages of fifteen to forty–nine years can exercise strong influence in the reproductive health and overall well-being of women (Aragaw et al., 2023).

Contextually, the total well-being of women is vital given the role they play in the family, society and also in determining the total fertility rate of any given population. Also, the need to elucidate the nexus between and among population growth, family planning and maternal health through researches have been emphasized, only eclipse trends and limited successes have been accomplished. This evidently calls for more attention given the growing concern on the exponential increase in population size especially in Sub-Sahara African countries with the culminating increasing pressure on available resources to cater for this growing population. The prevalence and

determinants of unintended pregnancies vary across cultures and societies. For instance, according to Kassie et al. (2017) gainfully employed women are more susceptible to unintended pregnancies than their unemployed counterparts and the reason is partly attributed to a high level of social interaction and the nature of their work, which may lead to casual sex, followed by unwanted pregnancy.

Similarly, limited accesses to health facilities for family planning such as contraceptives as well as unmet personal or family needs has been associated with unintended pregnancies (Yaya & Ghose, 2018; Wondie, 2021). To Petersen and Moos (1997), inconsistent condom use, early coitarche, and multiple sexual partners are associated with unwanted teenage pregnancies. Discounting the reported trends, persistent abstinence-focused sexual education policies have strong affinity with higher rates of sexual risk taking. Empirical records have shown that the proportion of women of reproductive age who have their need for family planning satisfied by modern contraceptive methods (SDG indicator 3.7.1) has increased gradually from 73.6 percent in 2000 to 76.8 percent in 2020 (United Nations, 2020) in favour of the developed nations. However, the change remains uneven, as most rural women in developing countries like Nigeria that want to avoid or control pregnancy tend to neglect or are even unaware of the best contraceptive methods. The flaws in contraceptive needs of women and couples suggest a very serious constraint to the actualization of multiple SDG Targets 3.7 and 3.8 for 2030, because of its contribution to achieving gender equality, and the empowerment of women especially within the standard reproductive health ages.

Maternal health issues remain at the epicenter of research in sexual and reproductive health till 2030 (Hindin et al., 2013). Yet, universal access to sexual and reproductive health-care services, including family planning, reproductive information and education are still skewed, with most African countries operating at the periphery, with high propensities of deterring women that need family planning from making informed choices on user-friendly contraceptive methods that are appropriate to their conditions. The low access and utilization had triggered the phenomenon of unintended pregnancies with the multiplier effects of malnutrition, mental illness, transmission of the Human immunodeficiency virus to children and death (Claridge & Chaviano, 2013; Aragaw et al., 2023).

The varieties of demographic, socio-economic, cultural and spatial causalities of unintended and unplanned pregnancies have been documented. Alene et al. (2020) linked poor knowledge and use of modern contraceptives, communication gap among spouse, age, and marital status, parity and literacy levels as significant determinants of unintended and unplanned pregnancies in Ethiopia. Guspaneza and Martha (2019) reported livelihood engagement, household income, family types, household size, ethnicity, religion and settlement locations as key factors responsible for upsurge in unintended/unplanned pregnancies. Abdullahi et al. (2023) established poverty, youthful exuberance and influence, unsafe sex, exposure to internet, poor parental care/support along with promiscuity as significant correlates to unintended/unplanned pregnancies with severe consequences on educational achievement. Low contraceptive uptake and unmet need for family planning in Nigeria, as well as women's lack of empowerment to make fertility decisions, compromise reproductive

rights and their ability to determine freely the number and timing of their pregnancies, and their access to quality information and services, free from discrimination or coercion (Hardee et al., 2013).

The paucity in multi-level explorations of policy perspectives of unintended pregnancies in Nigeria calls for concern. The 2018 Demographic and Health Surveys (DHS) showed an estimated 36 percent stoppage of modern family planning measures by women in marital relationships resulting to about 46 percent probability of exposure to unwanted pregnancies (Kupoluyi et al., 2023). In Edo State, adolescence and women of reproductive age with low and improper contraceptive usage, particularly among students, victims of rape and illegal migrations stand at higher risk of unwanted pregnancies (Ehiaghe & Barrow, 2022; Obarisiagbon, 2023; Adeyemi et al., 2023). The unfortunate situations suggest a need for intervention through place- and-people centered research to elucidate the intriguing relationships and multi-level determinants of unintended pregnancies among women of reproductive ages in Edo South with a view to mitigating its implications and promote healthy family life among the population and raised awareness for actualizing SDG Targets 3.7 and 3.8 with their indicators.

The study of unintended pregnancies in any region is a crucial developmental factor related to the growth of the economy as well as child and maternal health and very importantly, for the actualization of the Sustainable Development Goals; Targets 3.7 and 3.8. The crux of this is to ensure intentionality and preparedness in the reproductive health of women. This will go a long way in checking the exponential increase in population size especially in sub Saharan Africa and also the

accompanying health challenges that comes with child bearing. Evaluating the prevalence and determinants also facilitates tracking of improvements in service delivery as well as the effort of women in mitigating unintended pregnancies while giving birth at desired time. This is due to the fact that maternal mortality which is the death of a pregnant woman or within forty-two days after child birth can be preventable. Thus, reducing unintended pregnancy/fertility is a public health goal since unintended pregnancy is associated with high population growth, poor maternal and child health. Hence, the need for integrated assessment of unintended pregnancy with its related dynamics with particular reference to Edo State, Nigeria.

1.2 Statement of the Research Problem

Unintended pregnancy is one of the most focal public and reproductive health challenges that impose major health, economic, and psychosocial costs on individuals and communities, as well as significant emotional damage to women, families, and society (Mulatu et al., 2017). To Bain et al. (2020), over forty percent of pregnancies worldwide are unintended, with a quarter of the figure coming from Africa. According to Federal Ministry of Health (2020), among women of reproductive age in developing countries, 57 percent are in need of contraception and 26 percent of these women do not have access to modern methods of contraception leading to a very significant number of unmet need amongst women of reproductive age. This results in a contradictive and worrisome situation, given the United Nations Population Fund's (UNPF) goal of realizing that every pregnancy is wanted, every birth is safe, and every young person's potential is fulfilled; thereby making the study of pregnancy intentions, prevention and outcome very crucial in today's society. The need to reduce

the occurrences of unintended pregnancies and births can be tackled directly and indirectly with the use of modern family planning methods. The Nigeria family planning blueprint for 2020 to 2024 targets a prevalence in the use of contraceptives to 27 percent thereby increasing and improving family planning through Task shifting Policy (TSP) and Costed Implementation Plans (CIP) amongst other policies (Federal Ministry of Health, 2020). Ikekhua and John-Abebe (2023) reports that Edo State is yet to adopt the TSP and has no CIP domestication amongst the States in the Country and has the highest Unmet need for family planning amongst the Southern States of the Country at 33 percent. Also, National Population Commission (NPC) and ICF International (2019) reported that Edo State records the highest total fertility rate (TFR) at 4.8 percent and 80 percent of the women not currently using family planning methods in South-South Nigeria.

It is pertinent that the preceding notions need be validated and expatiated through research in Edo State to raise awareness and educate women within the reproductive age that access and utilization of reproductive health-care services are their Statutory Rights, hence, no one should be left behind. According to Johnson-Mallard et al. (2017) whose work on Unintended Pregnancy states that, a woman who wanted the pregnancy but preferably at a later time could be said to be a mistimed but if she did not want to become pregnant at all it can therefore be regarded as unwanted. In this study, the terms “mistimed” and “unwanted” pregnancies are used interchangeably to mean unintended pregnancies. Unintended Pregnancy in this study implies an unwanted and mistimed pregnancy; it also refers to conception that occurs when couples do not desire to have a child for reasons best known to them. Unwantedness

does not imply that there is absence of love and understanding between spouses but just an indication of the circumstances surrounding the pregnancy. On the other hand, a mis-timed pregnancy is one that occurs at a time or period not desired by the woman involved or both spouses.

The United Nations (2022) reports that the proportion of women who have their need for family planning satisfied with modern methods (SDGs Indicator 3.7.1) continues to be among the lowest in the world at 56 percent. The United Nations reports that the use of modern contraceptive methods is one of the most effective ways to reduce the risk of unintended pregnancies, enabling women and couples to plan how many children they have and when to have them. Unfortunately, the observed low demand for modern method of family planning in Nigeria and in Edo State, with a corresponding paucity of discourses on unintended pregnancy makes this study timely to foreclose the research gap with respect to the United Nation Sustainable Development Goals (2015); Target 3.7, with indicators 1 and 2. More so, maternal health issues remain the first key research area in sexual and reproductive health till the 2030 SDGs end (Claridge and Chaviano, 2013; Hindin et al., 2013).

The United Nations (UN) Sustainable Development Goals (SDGs) has the first Indicator of the seventh Target of the third goal (SDG 3.7.1) as the demand for family planning satisfied by modern methods (United Nations, 2023). This is the only indicator used to represent family planning (FP) from the SDGs list of indicators and hence the need to track its progress in relation to the achievement of sustainable development, with a global target to achieve at least 75 percent coverage in the demand for family planning by the year 2030. According to the 2018 Nigeria

Demographic and Health Survey (NDHS), the demand for family planning among married or in-union and sexually active unmarried women of reproductive age was 33.9 percent and 32.5 percent, respectively. This is considerably low as it is below 50 percent and there is a dire need to increase this percentage. The region-centered cases of unintended pregnancies among women within the reproductive age showed that North Africa and sub-Saharan Africa recorded among the highest prevalence of 86 per 1000 and 91 per 1000 respectively (Bearak et al., 2020). This suggests poor access and under-utilization or high neglect of reproductive health care services especially family planning, thereby blurring the potentials and prospects for the timely actualization of the United Nations Sustainable Development Goals, Target 3.8, with Indicators 1 and 2. There is urgent need for people-culture-place oriented study with a view to creating awareness for the Target actualization.

The World Health Organization (2020) reports that Women in poor countries are at greater risk of unintended pregnancy and lack access to safe and legal abortion services. Unintended pregnancy is an important concept for understanding the growth rate of any population and very importantly to elucidate the role of intentions in contraceptive use and fertility. Understanding the relationship between contraceptive use and fertility is crucial because of the implications for averting unintended pregnancies, which have been shown to be substantial in the developing countries (Guttmacher Institute, 2017). The level of unintended pregnancy also can serve as an indicator of the state of women's reproductive health, and of the degree of autonomy women have in determining whether and when to bear children (Palamuleni et al., 2014).

The multi-level effects of inadequate reproductive health rights and low women empowerment programmes attracted poor antenatal care service deliveries in various communities in Africa. Such place-centered failures in health care deliveries accelerate the incidences of women with unintended pregnancies and their vulnerability to complications such as unsafe abortion, anemia, and economic losses (Ermiati et al., 2022). Others include high blood pressure, preeclampsia, obstetric bleeding, stigma, and socio-economic inequalities, emotional stress, morbidity, and death (Mulatu et al., 2017; Rahmaniati et al., 2020; Aragaw et al., 2023) to families, communities and societies. Studies on how people in the small or localized geographic spaces like perceive and respond to the nexus between unintended pregnancies and constraints to effective utilization of improved sexual and reproductive health services are either eclipsed or neglected, thereby worsening the impacts of the affected families.

A multi-level analysis of incidences of unintended pregnancies in the sixty-one low and medium income countries have shown that Nigeria recorded the highest cases of 9,534 as at the year 2018 (Aragaw et al., 2023). The reported high scenarios especially in the country may be attributed to factors such as the women's low educational background, victim of sexual violence, inadequate use of contraceptive, poor media exposure, limited access to reproductive health facilities, and poor family background. The survey is an indicator of persistent neglect of family life and sex education among women within the reproductive ages thereby necessitating more researches.

Research had shown that unintended pregnancy accounts for more than half of all pregnancies in some areas (WHO, 2014; 2019), while maternal and neonatal mortality

remain among the cardinal public health challenges with the devastating effects of upsurge in complications of unsafe abortion, miscarriage, and unplanned births (WHO, 2019), due to unintended pregnancies (Singh et al., 2015). Some cultural practices that allow divorce and re-marriage with multiple children and couples or wives especially among the rural populace demands urgent research to avert the dangers of unintended pregnancies and create awareness on reproductive health and motherhood. In view of the numerous health, economic and social benefits of family planning (FP) and considering the low demand for FP met by modern methods and in line with the SDG 3, Target 7 of achieving 75 percent family planning needs by the year 2030 this study comes apt and very relevant.

The concept of Unintended Pregnancy leading to live birth is very crucial in understanding fertility, fertility trends, reproductive intentions, reproductive outcomes, maternal health and morbidity. Since the 1994 international conference on Population and Development in Cairo, the issue of unintended pregnancy and childbearing in both developed and developing countries has become a high priority reproductive health topic (United Nations, 1995). In 2015, the United Nations General Assembly adopted the 2030 Agenda for Sustainable Development, which reaffirmed the commitments of the landmark International Conference on Population and Development, held in Cairo in 1994. The Programme of Action emphasized that universal access to a full range of safe and reliable family planning methods helps couples and individuals realise their right to decide freely and responsibly the number and spacing of their children. As a fall out of this, there is a dire need to understand the determinants and prevalence of unintended pregnancy in a bid to create awareness

and reduce the numerous consequences that will be highlighted in the course of this work.

In a bid to improving maternal health and proper child development, calculated and precise interventions, especially during parturition and postpartum period when an unintended pregnancy can be of great risk to mother and baby would be essential. Also, if the prevalence of unintended pregnancies are to be reduced or completely eliminated, to promote positive health outcomes stringent measures must be adhered to in order to record significant achievements. To achieve this objective, factors responsible for unintended pregnancies need to be investigated and understood. Eliason et al. (2014) who affirmed that studies conducted in the United States, Asia, Middle East and Latin America have revealed several demographic and socio-economic factors as predictors of unintended pregnancies. Among them are contraceptive failure, lack of access to contraceptives, religious beliefs, and inadequate knowledge on fertility and pregnancy. Childhood marriage may very likely trigger unintended pregnancies in this context. In 2021, the United Nations reported that nearly one in every five young women was married before the age of 18 with the highest rates of child marriages found in sub-Saharan Africa and Southern Asia, where 35 per cent and 28 per cent of young women, respectively, were married in childhood (UN, 2022).

Fertility trends in most of the developed countries indicate that there is a significant decline to two children or less per couple but in sub-Saharan Africa, Total Fertility Rate (TFR) still amounts to 4.6 per woman (Nargund, 2009). Fertility control in Nigeria may not be completely feasible without tackling the social cultural

determinants and fertility behaviour of women. It has become expedient that women of reproductive age should be aware of fertility control measures as well as having access to these reproductive health facilities should be a priority over other factors for their overall well-being. According to Palamuleni (2014), many pregnant women will want or need to end a pregnancy to avoid risks to their lives and health, psychological trauma, and socioeconomic turmoil. The potential consequences of these mistimed and unwanted pregnancies may include, prenatal and perinatal risks (inadequate or delayed initiation of prenatal care, smoking, drinking, substance use during pregnancy, prematurity, low birth weight and not breastfeeding); risks for the children born from unintended births (poor physical and mental health; poor developmental, behavioral and educational outcomes; poor mother-child relationships; and weaker union formation in young adulthood); and risks for parents who have an unintended birth (poor psychological well-being, negative attitudes towards parenting, and low relationship quality). Fertility as a demographic indicator refers to the actual reproductive performance of a population based on the number of live births that occurs in the population (NPC, 2010).

Unintended pregnancies (mistimed and unwanted) are potential public health risks to families (fathers, mothers and children) and the society. They carry serious and many times very severe consequences for women and their families including the possibility of poor maternal mental health, delayed antenatal care, unsafe abortions and poor child development. The perceived high rate of un-intended fertility in Nigeria and sub-Saharan Africa, attests to poor access to reproductive health care especially family planning, inadequate reproductive health rights and low empowerment of women.

Maternal/child mortality and health is a function of the number of pregnancies and births a woman has in her lifetime. Understanding of the relationship between pregnancy, fertility and population growth is crucial to develop appropriate strategies to population control.

Previous study such as Ranatunga and Jayatatne (2020) on the Proportion of unplanned pregnancies, their determinants and health outcomes of women in Sri Lanka, demonstrated that some women with unplanned pregnancies experience dire consequences such as hyperemesis gravidarum urinary infection, depression, unsafe abortions, imbibing unsafe habits like drinking and smoking, obstructed labour and many others. These consequences are of significant public health concern especially on the mothers and children before and after birth. These pregnancies continue to be a burden to families, society, health systems and facilities, economy of any society involved especially countries where termination of pregnancy is not legal. The reduction of unplanned pregnancy is a key concept in the Global Sustainable Development agenda, 2030. This global vision is that every woman will celebrate a wanted, healthy pregnancy, and safe birth of a child who will not only survive but thrive to his or full potential (Ranatunga and Jayatatne, 2020). Reducing unintended pregnancy and its inimical effects on maternal and neonatal outcomes still takes precedence for global reproductive health. In order to fully meet the need for family planning globally, there should be better understanding of women's pregnancy intentions, behaviour and outcomes. Improving contraceptive use is sacrosanct, as effective family planning programs should lead to a reduction in unplanned

pregnancies and also effective preconception care should lead to an increase in planned pregnancies.

Despite global health commitments such as the Sustainable Development Goals (SDGs), the Global Strategy for Women's, Children's and Adolescent's Health (2010), Federal Ministry of Health Family Planning Blue Print Agenda (2014), the Guttmacher-*Lancet* Commission (2018) amongst many others, there remains a continued gap in sexual and reproductive health and rights, including those related to access to contraception and safe quality abortion care. In this context, timely evidence for the incidence of unintended pregnancy and abortion can motivate investment and greater commitment to increase access to services and inform policies and programmes. According to the NPC & ICF (2019), 19 percent of married women have an unmet need for family planning, 12 percent want to delay childbearing, while 7 percent want to stop childbearing. In view of the copious low demand for family planning satisfied by modern methods in Nigeria and precisely in Edo State and a gap in available literature addressing this subject matter, this study comes very apt and relevant. This study will also examine the number of sexually active women with unmet needs for family planning in Edo South, Edo State.

In line with the 2030 Agenda for SDGs as stated by the United Nations (2015a), figuring out the causes of unplanned and unintended births and the need for fertility control is critical and apt for many aspects of family planning. The fundamental causes leading to a high prevalence of unintended pregnancy needs further analysis and assessment in order to efficiently implement appropriate reproductive health programs. It is essential to identify the reasons and also the risk factors associated

with unintended pregnancy and to offer facilities as well as services to assist those who are at risk. To develop effective strategies for the prevention of unintended pregnancies, it is necessary to understand the factors affecting unintended pregnancies. The underlying causes of unintended pregnancy requires further investigations in order to initiate appropriate and effective reproductive health care programmes. Numerous factors can be attributed to the increasing number of unintended pregnancies, which need to be assessed to design interventions reducing the frequency of occurrence or completely eradicating it from the society. The findings of this research will be relevant and critical for reproductive health care planning programs which will eventually reduce the risk of maternal and infant mortality, morbidity induced by unintended pregnancy.

1.3 Research Questions

The foregoing research questions are formulated to provide direction for the study.

- i. What are the causes of unintended (unwanted and mistimed) pregnancies among women of reproductive age in Edo South, Nigeria?
- ii. How prevalent is unintended pregnancies among different socio-economic and demographic groups of sexually active women in the research area?
- iii. What is the perception of sexually active women on the use of family planning methods in Edo South, Nigeria?
- iv. How do sexually active women utilize and meet their sexual and reproductive health-care needs within the study area in line with the SDG 3, Target 7?

- v. What are the unmet needs and constraints faced by women of reproductive age in accessing and utilization of reproductive health services with regards to SDG 3, Targets 7 and 8?
- vi. How can unintended pregnancies be used to access the implementation of the SDG 3, Target 7 in Edo State?

1.4 Aim and Objectives

The aim of this research is to examine the multi-dimensional implications of the prevalence and determinants of unintended pregnancies in the context of the Sustainable Development Goal; 3, in Edo South, Nigeria. The specific objectives of this study are to:

1. identify the causes of unintended (unwanted, mistimed and unplanned) pregnancies in the research area
2. assess the prevalence of unintended pregnancies among different socio-economic and demographic groups of sexually active women in the study area.
3. ascertain the perception of sexually active women of reproductive age on the use of family planning methods in the research area
4. determine if and how sexually active women utilize and meet their sexual and reproductive health-care needs within the research area in line with SDG 3, Target 7
5. evaluate the unmet needs and constraints faced by women of reproductive age in accessing and utilization of reproductive health services with regards to SDG 3 Target 7.

6. Suggest the inclusion of unintended pregnancies as key component of the data ecosystem required for the implementation of SDG 3, Target 7 and 8 in the research area.

1.5 Research Hypotheses

The following null hypotheses will be tested in the course of this research.

1. Socio-economic and demographic variables do not significantly predict unintended pregnancies among women of reproductive age in the research area.
2. There is no significant difference in the distribution of age, age of entry into marriage and age at first birth of the respondents between the women of reproductive age in households and hospitals in this research area.
3. There is no significant variation in the mean occurrence of unintended pregnancies amongst communities in Edo South
4. There is no significant relationship between method of family planning choice and pregnancy outcome.

1.6 Significance of the Study

Unintended pregnancy remains a dominant accelerator of fertility rate of the global population, while accessibility and utilization of family planning measures continues to exert vital societal healthcare apprehension with varying impacts at different geographical locations. Undertaking a study on this subject in Edo South is not only germane, but timely and will offer an ample opportunity of generating useful baseline datasets that will serve as foundation for other scholars to explore. Government and

allied stakeholders will identify their place-centered commitments and strengthen capacity building to protect, support, and save mother and child.

The center-piece of reproductive health as documented in SDGs-oriented indicators are unintended pregnancies. The multi-level assessments and models of past and present trends in unintended pregnancy in this study holds high potentials of proffering useful insights into the Total Fertility Rate (TFR) of the population of the study area. Such knowledge is very useful in sustainable future regional health sector reforms, socio-economic and demographic planning for the people, which is a catalyst to sustainability in the developmental agenda. Several measures, policies and programmes such as the Maternal and Neonatal Mortality Reduction and Initiative (MAMII) and the Free Maternal and Child Health Care Programme (FMCHCP), to improve child, maternal, reproductive and overall health and wellbeing of the citizenry have been implemented by governments at different levels. This research will therefore serve as a framework for tracking, monitoring and evaluating the progress made on birth control policies/ programmes and challenges as well. Such knowledge will aid in reducing to the barest minimum the incidence of unintended pregnancy and the accompanying consequences on maternal and neonatal outcomes, which remains sacrosanct for global reproductive health. Interestingly, the findings from this research will provide readily available template for donor agencies, global development partners for possible area of policy interventions in servicing lagging areas. Above all, the findings of this research will serve as veritable empirical literature that will advance future knowledge development for stakeholders.

1.7 Scope of the Study

This research focuses on the multi-dimensional implications of the prevalence and determinants of unintended pregnancy on the Sustainable Development Goals in Edo State. This research will be based on the United Nations Sustainable Development Goal 3, Targets 7 and 8 respectively, with two indicators. The rationale is to include unintended pregnancy as a component of the data ecosystem required for the evaluation of the achievement of the SDG 3, Target 7 which will fast-track the level of progress recorded, identify the constraints, and proffer the possibility of actualizing UNSDG Targets and its associated indicators by the year 2030 in Edo State.

The research was field-based that transects primary, secondary and tertiary healthcare providers in public and private domains. The inclusion criterion for the health facilities is that it must offer maternal and reproductive health services in all the seven Local Government Areas (LGAs) in Edo South Senatorial District. It is a cross-sectional study that involved the use of mixed research approach while the robustness lie in integration of geospatial techniques in addition to multivariate statistical frameworks in the realization of the research objectives.

1.8 The Study Area

1.8.1 Location and Size

Edo South is one of the three senatorial districts in Edo State, located in the South-South geopolitical zone of Nigeria. Geographically, the district lies between Latitudes 5°44'20.25"N and 6°52'37.17"N, and Longitudes 4°58'41.37"E and 6°14'58.03"E relative to the Equator and the Greenwich Meridian respectively (see Figure 1). It is bounded to the north by Ondo State, to the east by Edo Central Senatorial District, to

the south by Delta State, and to the west again by parts of Ondo State, as illustrated in Figures 1 and 2.

The senatorial district comprises seven Local Government Areas (LGAs): Egor, Ikpoba-Okha, Oredo, Ovia South-West, Ovia North-East, Orhionmwon, and Uhumwode. Collectively, these LGAs cover an estimated total land area of approximately 10,835.37 square kilometres (National Population Commission, 2010). This spatial extent highlights the territorial significance of Edo South, both in terms of its administrative composition and its strategic geographical positioning within Nigeria's subnational framework.

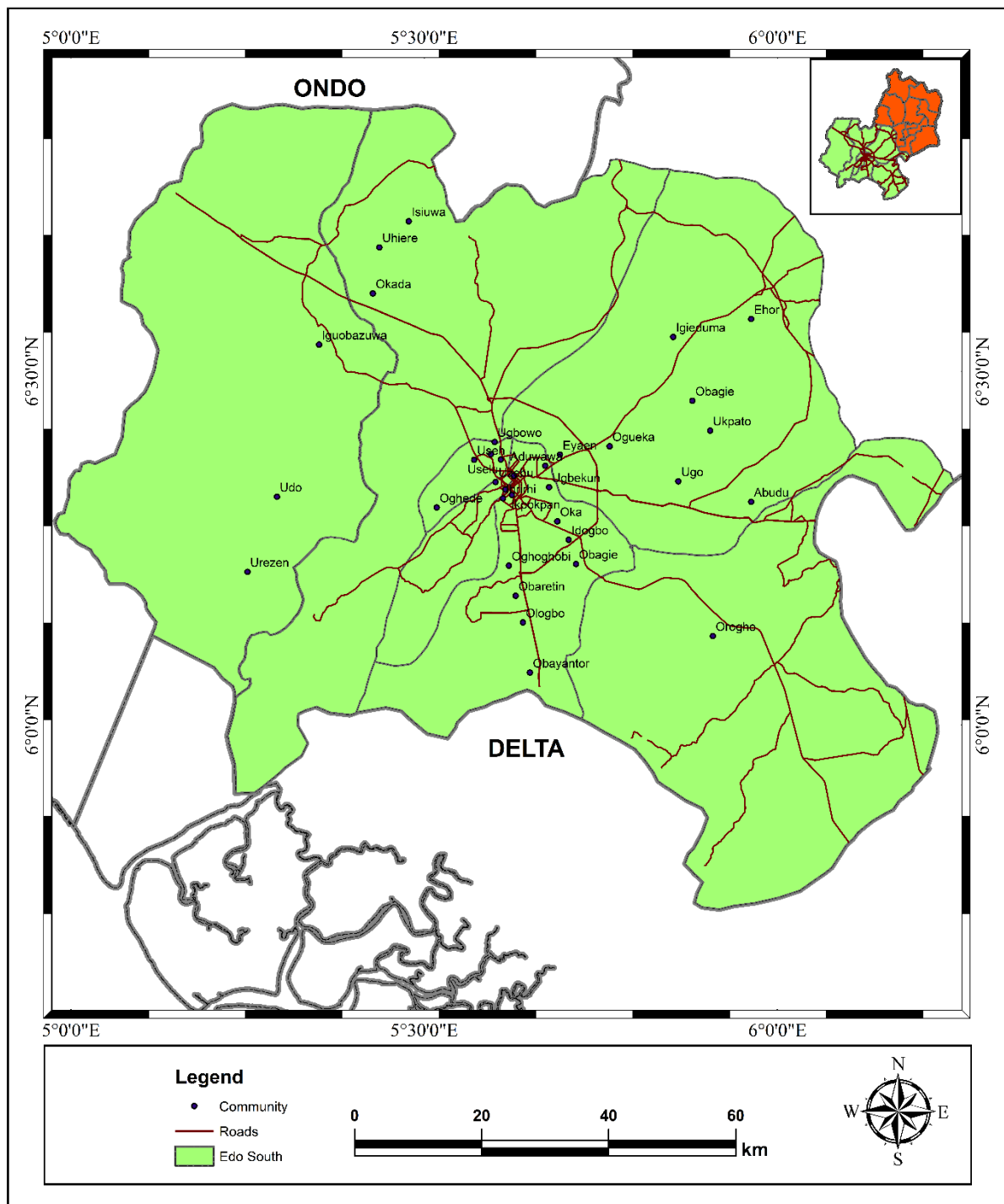


Figure 1. 1: Edo South Showing the Communities in the Study Area.
Source: Compiled using Open Street Map Database (2023)

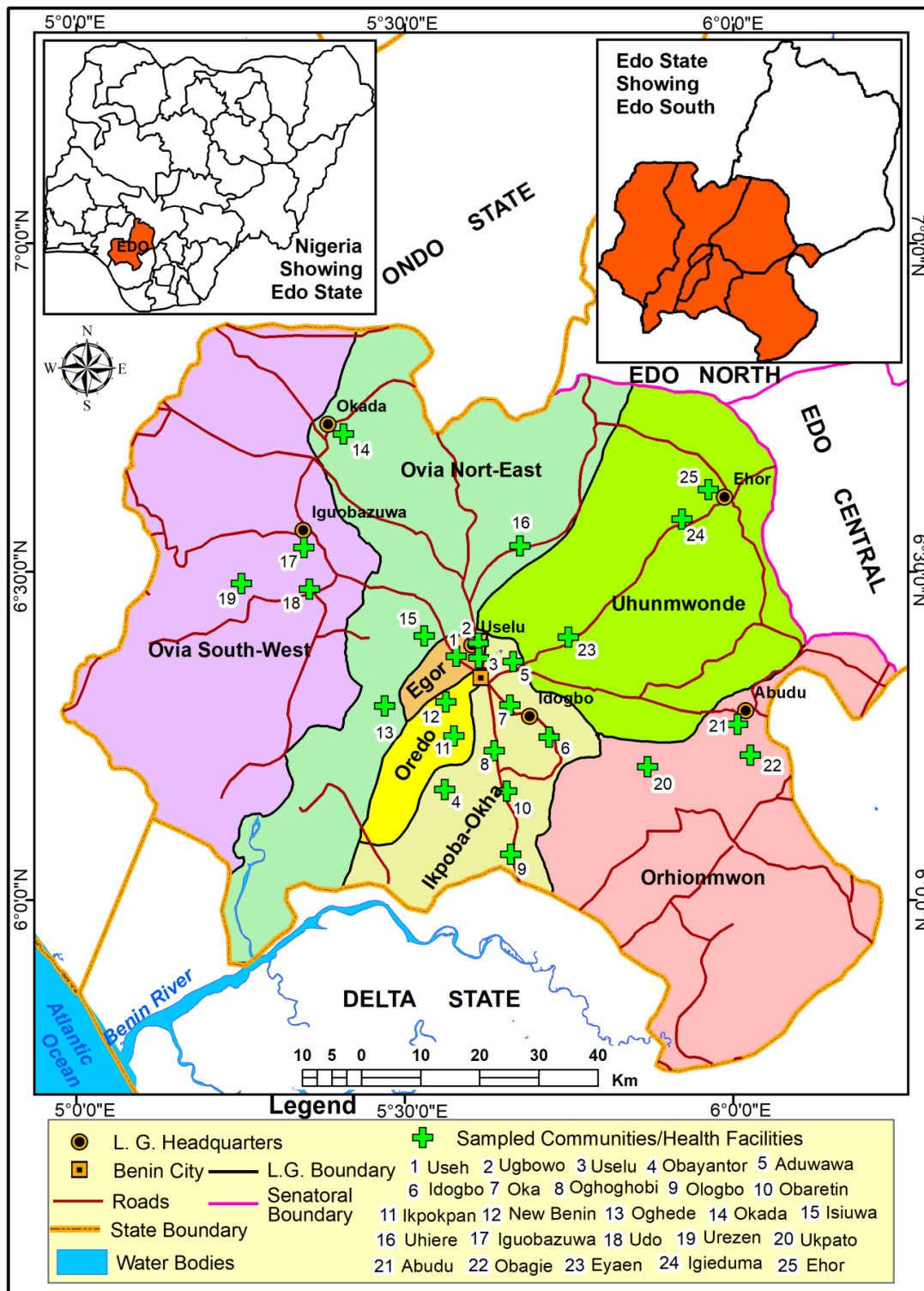


Figure 1.2: Edo South Showing Local Government Areas and Sampled Communities/Health Facilities (*Source:* Compiled using Open Street Mao Database, 2025).

1.8.2 Population and Settlement Characteristics

Edo South is blessed with human resources and the 2006 Population and Housing Census puts the total population of the seven LGAs at 1,686,041, disaggregated into 851,251 males and 834,790 females (National Population Commission, 2010). This translates to about 156 people per square kilometer in terms of population density. The projected population of Edo South stood at 2,460,240 with 1,245,341 males and 1,214,899 females with the population density of 227 persons per Km² in 2022. The population of women of the reproductive ages (15 – 49) years in Edo South was 451,710 (NPC, 2010) and using arithmetic progression with Edo State growth rate of 2.8 percent, this make an approximated total of 710,489 in 2023. There is a comparatively higher number of reproductive female than their male counterparts between the ages of 15-49 years, which is an indicator of a potentially high number of pregnancies.

Edo South is a multi-ethnic region due to the primordial nature of Benin City, thereby making it a hub of population concentration. To Edohen (2018), the study area is largely dominated by the *Bini* dialectical nationality. Based on the prehistoric affinity with other ethnic nationalities, the Esans, Hausas, Igbos, Yorubas, Ijaws, Urhobos, Ibibios/ Efiks and several others can be found in Edo South. Benin City is the most prominent urban settlement with Egor, Iguobazuwa, Okada, Ehor, Abudu and Idogbo as second tier urban settlements and LGAs administrative headquarters. There are a number of rural settlements in Edo South noted for their involvement majorly in agricultural activities (Edohen & Ikelegbe, 2022) while on the other hand the urban sprawl effect has made most settlements to possess the characteristics of urban and

rural (Iyekekpolo & Balogun, 2020). Other notable settlement found within the study area include Ugbor, Abumere, Ute, Orior, Utekon, Oluku, Eyaen, Ogba, Evbomodu, Ignowan, Evboneka, Okokhuo, Ekiadolor, Ekodobor, Igbekwe, Osasimwioba, Uwan, Egba, Ugbogiobo and Obazagbon (Ikelegbe & Edokpa, 2013).

1.8.3 Climate

Edo South experiences a humid tropical climate which is typical of Af Koppen's climatic categorization with the average annual rainfall and temperature of about 2000 mm and 28°C respectively, while the average relative humidity normally exceed 80 percent (Atedhor et al., 2011; Odjugo, 2012; Odjugo et al., 2015). However, rainfall normal (1987-2022) in Edo South calculated from the University of East Anglia Climatic Research Unit (UEA-CRU) Time-Series (TS) high-resolution gridded data is about 2600 mm per annum. Mean annual maximum temperature in the same period 31.5^o C while the mean annual minimum temperature is 22.1^o C. Maximum temperature is as high as 35^o C in February and as low as 28.5^o C in August even as March remained the month with the highest maximum temperature (34.4^o C) while January is the month with the lowest observed minimum temperature value of 22.4^o C (Ibanga, 2020). The mean annual solar radiation is 17.64 MJ/m² (UEA-CRU, Harris & Jones, 2023) and soil temperature ranged from 29 – 32^o C in Edo South (Imasuen & Onyeobi, 2013).

1.8.4 Healthcare Facilities

The importance of healthcare for individuals, households, communities, states and nations cannot be over-emphasized. A workable healthcare system is also a function of the availability and accessibility the quality of care/ services rendered in addition

to how affordable is the services to the common citizen. There are several health facilities offering variety of services in Edo South. The Nigeria Health Facility Registry showed that there are 404 functional health facilities out of which 215 are owned by the government while 190 are owned by private individuals in Edo South. On the basis of services render, a total of 331 health facilities offer primary healthcare services, 69 render both primary and secondary healthcare services, while six offer tertiary along with secondary and primary services in Edo South (Federal Ministry of Health, 2019). Some notable among the health facilities include University of Benin Teaching Hospital, Igbinedion University Teaching Hospital, Central Hospital, and Stalla Obasanjo Specialist Hospital. Table 1.1 shows the distribution of reproductive healthcare facilities in Edo South, Nigeria. Fertility, maternal and infant mortality rate in Edo South is relatively high, with considerable low contraceptive utilization (Nigerian Urban Reproductive Health Initiative (NURHI, 2016). Unwanted pregnancy is also common in the study area with high rate of abortion-induced mortality and its attendant impacts on the household demographic and socio-economic structure (John-Abebe, 2022).

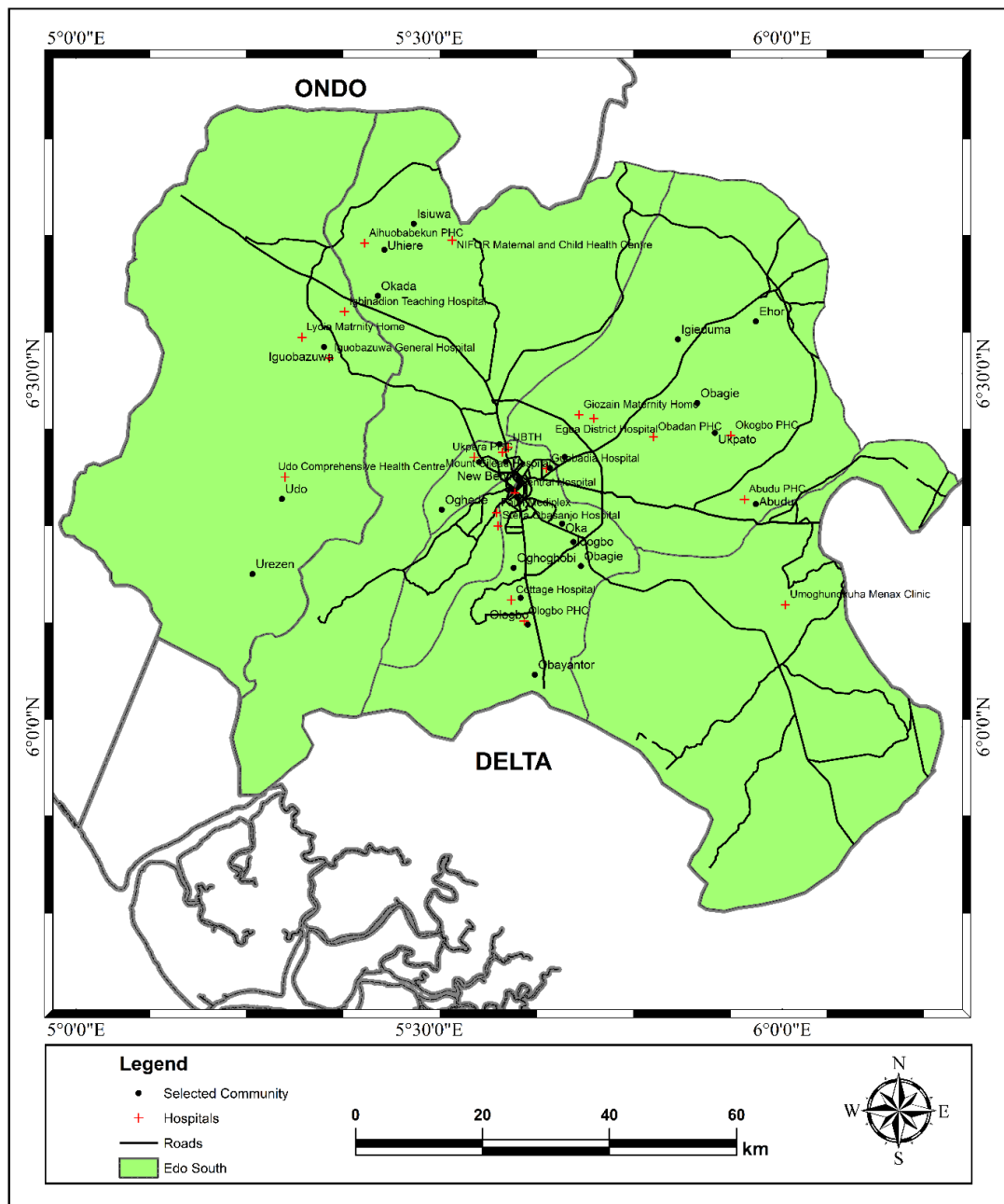


Figure 1.3: Edo South Showing Local Government Areas and Sampled Communities/Health Facilities. (*Source:* Compiled using Open Street Mao Database, 2025).

Table 1. 1: Distribution of Reproductive Health Facility Registry in Edo South Senatorial District

| LGA | Public | | | | Private | | | | Grand Total |
|--------------|------------|-----------|----------|------------|------------|-----------|----------|------------|-------------|
| | Primary | Secondary | Tertiary | Total | Primary | Secondary | Tertiary | Total | |
| Egor | 9 | 0 | 2 | 11 | 31 | 10 | 1 | 41 | 52 |
| Ikpoba-Okha | 24 | 0 | 0 | 24 | 56 | 10 | 0 | 66 | 90 |
| Oredo | 17 | 5 | 0 | 22 | 40 | 32 | 2 | 74 | 96 |
| Ovia North | 29 | 2 | 0 | 31 | 0 | 0 | 1 | 1 | 32 |
| Ovia East | | | | | | | | | |
| Ovia South | 45 | 2 | 0 | 47 | 1 | 1 | 0 | 2 | 49 |
| Ovia West | | | | | | | | | |
| Orhionmwon | 34 | 5 | 0 | 39 | 3 | 1 | 0 | 4 | 42 |
| Uhumnwonde | 40 | 1 | 0 | 41 | 2 | 0 | 0 | 2 | 43 |
| Total | 198 | 15 | 2 | 215 | 133 | 54 | 4 | 190 | 404 |

Source: Extracted from Nigeria Health Facility Registry by Federal Ministry of Health (2023)

1.8.5 Social and Economic Activities of Edo South

Edo South has a rich cultural heritage in bronze casting, wood carving, music, drama, art and craft. Also, Edo South is known for high Agricultural production and output such as cassava, plantain, yams, vegetables etc. Despite having the necessary resources for industrial development, including sufficient land, a well-built road system, and a combination of skilled and unskilled workforce, Edo South is not acknowledged as a major industrial center. Despite the numerous potentials and benefits of industrialization in this region, the shift from basic processing industries to bigger manufacturing activities has been happening at a slow pace (Okafor et al., 2020). Some of the major industries in Benin City comprise the Guinness Brewery, Nigerian Bottling Company, and several ceramics companies, providing significant job opportunities for residents. Government agencies both at the federal, state and local level, private firms and informal trade are the main drivers of the economy. Also, some of the major employers of labour force include; Government agencies, banks,

schools, insurance companies, legal practices and healthcare facilities. A significant number of the working population are into menial jobs such as welding, brick layering, auto mechanics, carpentry, electricians, panel beaters, sales representatives and other service jobs. Some of the women are also engaged in professions such as hairdressing, dressmaking, and other service-oriented roles, especially in local markets.

The informal sector thrives in Benin City and plays a significant role in the urban and rural economy of Edo South. Places such as New Benin Market are busy hubs of economic transactions with merchants providing a variety of products and services that draw in both residents and individuals from nearby regions. The informal sector's energy provides a cushion for the economy from high unemployment, yet it is often marked by meager salaries and lack of job stability. However, the problem of youth unemployment continues to be a significant concern. The competition for jobs, especially in the informal sector, has increased due to the large number of migrants coming from rural and other areas of Nigeria. Numerous youth, who do not have access to traditional job openings, are compelled to start their own businesses or work for themselves, but these endeavors are usually small in size and do not have significant potential for expansion (Edo State Government, 2021). This region shows great potentials for expanding its economy through diversification, particularly in fields related to agriculture. Edo State has abundant agricultural resources that can be utilized for the development of agro-processing and related industries. Growth in this industry has the potential to not just generate employment opportunities, but also to

strengthen the community's economy by decreasing dependence on foreign products and services.

In general, Benin City's social and economic environment is characterized by a blend of both traditional and contemporary economic activities. Although industries like education, healthcare, and public services have a high number of workers, the city is struggling with sluggish industrial growth and a lack of formal job opportunities. Investments in infrastructure and industrial incentives, along with assistance for small and medium enterprises, could improve Benin City's economy and tackle issues like unemployment and urban poverty.

1.8.6 Demographic Structure of the Study Area

The National Population Commission (2010) puts the total population of Edo State at 3, 233,366 and Edo South comprising of Oredo, Ikpoba-Okha, Egor, Ovia North East, Ovia South East, Uhumwende and Orhionmwon Local Government Areas at 1,686,041 (851,251 males and 834, 790 females) with a population growth rate of 2.78 per cent. Overtime, this figure keeps evolving as a result of population dynamics such as birthrate, deathrate and migration and also factors such as urbanization and economic growth. The National Bureau of Statistics (2010) puts Edo State as having the second highest literacy rate after Lagos State at 91.1 percent, this is also reflected in the number of Educational institutions present in the State. Edo South has a relatively higher young and active population and it is made up of predominantly binis with a significant presence of other ethnic groups within and outside the State. Edo South which comprises of seven local government areas has grown rapidly in population. For example, the population rose from 53,753 as in 1952-1953 censuses

to 100,694 in 1963. In the 1991 census, Benin had a population of 780,976 while in 2006 it rose to 1,085,676 with the male and female population put at 542,554 and 543,122 respectively (NPC & ICF, 2010). Table 1.2 shows the population distribution of Edo South as at 2006.

Table 1. 2: Population Distribution of Edo South as at 2006

| Local Government Area | Male | Female | Total |
|------------------------------|----------------|----------------|------------------|
| Egor | 168,925 | 171,362 | 340,287 |
| Ikpoba-Okha | 184,725 | 187,355 | 372,080 |
| Oredo | 188,895 | 185,620 | 374,515 |
| Ovia North-East | 80,433 | 74,911 | 155,344 |
| Uhunmwonde | 63,727 | 58,022 | 121,749 |
| Grand Total | 686,705 | 677,270 | 1,363,975 |

Source: National Population Commission 2010

Table 1.3 shows the population distribution by age and sex in Edo South for 2006 census for Benin City; three age groups were identified namely: children ages 0 -19 years, adults ages 20 - 64 years and 65 years and above. Based on this breakdown, the male population constituted 50.4 percent while the female population made up 49.6 percent of the population. The age bracket shows 45.8 per cent were under 20 years, 54.2 per cent were between 20 and above (John-Abebe et al., 2021).

Table 1. 3: Population distribution by Age and Sex in Edo South (2006)

| Age Group | Description | Male | Female | Both Sexes | Percentage |
|------------------|--------------------|----------------|----------------|-------------------|-------------------|
| 0 – 19 | Children | 314,950 | 309,884 | 624,834 | 45.8 |
| 20 – 64 | Adult | 347,693 | 340,280 | 687,973 | 50.4 |
| 65+ | Aged | 24,062 | 27,106 | 51,168 | 3.8 |
| Total | | 686,705 | 677,270 | 1,363,975 | 100 |

Source: Culled from Table 5, National Population Commission, 2010.

Dependency Ratio

The child dependency ratio is regarded as the ratio of the population aged 0-14 (35 per cent) to the population aged 15-64 (61.2 per cent) of the total population. They are presented as number of dependents per 100 persons of working age (15-64) (UN, 2010). Age 0 – 14 is the dependency group and therefore dependent on the adult population. The adult group of 15 – 64 years makes up the productive work force of the Benin city. The old-age dependency ratio is the ratio of the population aged 65 years or over to the population aged 15-64. They are presented as number of dependents per 100 persons of working age (15-64). The Aged 65+ (3.8 per cent) are equally dependent on the work force for survival. Harasty and Ostermeier (2020) state “that the total dependency ratio is the ratio of the population aged 0-14 and aged 65+ to the population aged 15-64”, this ratio for the region is 63. This young population structure translates to a high dependency ratio and financial/social stress for the employed workforce. The total dependency ratio of Nigeria in 2010 was 86, while the child and old-age dependency ratios were 80 and 6 respectively (UN, 2010). Table 1.4 shows the dependency ratio by age and sex in Edo South.

Table 1. 4: Dependency Ratio by Age and Sex in Edo South (2006)

| Age Group | Population (Both Sexes) | Percentage Population | of |
|------------------|------------------------------------|----------------------------------|-----------|
| 0 – 14 | 478,276 | 35.0 | |
| 15 – 64 | 834,531 | 61.2 | |
| 65+ | 51,168 | 3.8 | |
| Total | 1,363,975 | 100 | |

Source: Culled from Table 5, National Population Commission, 2010.

The child dependency ratio is 57.3 i.e. one child is dependent on 1.75 workforce population. The adult dependency ratio is 6.13 i.e. one aged person for every 16.1 persons of the work force. Although, it's economically favourable for the aged dependency ratio of 6.13 than child dependency ratio of 57.3 for the work force and it proves that the aged are still engaged actively in various professions than the children. This age group is still quite small in terms of population size either due to lack of care and source of livelihood, leading to early demise when compared to the large population of young people. The total dependency ratio of the region is one dependent per 1.58 persons in the work force.

CHAPTER TWO
CONCEPTUAL DEFINITIONS, FRAMEWORK AND LITERATURE
REVIEW

2.1 Introduction

In this section, the relevant and related concepts, conceptual framework and literatures that will give concise definition of the prevalence and determinants of unintended pregnancies among women of reproductive age were presented. The conceptual framework include the London Measure of unplanned pregnancies, Fertility Exposure Analysis and the concept of Unmet Needs.

2.2 Definition of Related Concepts

2.2.1 Concept of Pregnancy

Pregnancy is a state of having implanted products of conception located either in the uterus or elsewhere in the body. It ends through either spontaneous or elective abortion or delivery (Pascual & Langaker, 2023). A pregnant woman is most certainly faced with her biological femininity, which influences her self-concept. In addition, she experiences a number of specific apprehensions concerning the course and outcome of pregnancy. This makes her particularly vulnerable as she is conditioned by the adaptive capacities of her personality, lifestyle, and status in the social environment (Artur and Hilhorst, 2012).

2.2.2 Concept of Fertility

The ability to conceive and bear a live baby is what defines fertility and this is hinged on several factors as it differs between individuals. Fertility affects the general world population as fertility rate is the average number of children born during an

individual's lifetime and is quantified demographically (Bongaarts & Potter, 1993). The indication of fertility is the product or output of reproduction, rather than the ability to have children. This is due to the fact that aside biological factors, other factors are involved in the ability and capability to bear children. For the physiological ability to have children, this manifest roughly in the period between menarche and menopause in women and it is referred to as 'fecundity'.

The concept of unintended fertility comes in play when there are childbirths that are not intended, and there are effects that spur this phenomenon. Unintended fertility refers to the conception and birthing of a child that is not planned for, such as the pregnancy and childbirth occurred when no children or no more children were desired. Unintended fertility could also account for situations when conception and childbirth occur before the time that it was intended to, and inadvertently, there is really no term as 'unintended fertility' without fertility, which justifies the need for the concept of fertility to be studied.

2.2.3 Family Planning

Family Planning is the information, means and methods that allow individuals to decide if and when to have children (UNPFA, 2004). According to the World Health Organization (2010) Family Planning is defined as the ability of individuals and couples to anticipate and attain their desired number of children and the spacing and timing of their births. Also as part of the goals of SDG 3 which is to reduce the global maternal mortality ratio to less than 70 per 100,000 live births and ensure access to sexual and reproductive health care services including family planning, information and education. Albeit central to gender equality and women's empowerment, planned

parent-hood is a key factor in reducing poverty among individuals and the society. Information about the use of contraceptives and the demand for family planning is very significant in understanding and conceptualizing pregnancy and fertility trends in any given society.

Family Planning is concerned with all aspects of reproductive health, reproductive care, fertility regulation, reduction of maternal mortality and high risk pregnancies to a very large extent. The fewer the pregnancies the lesser the number of times that women will be exposed to the risk of maternity related issues. Fewer pregnancies translate into a reduction in the number of times that women are exposed to the risk of maternity-related mortality, an impact that compounds over time as fewer births yields successive generations of smaller cohorts of women of reproductive age (Utomo et al., 2021). Family planning has been estimated to have reduced maternal mortality levels in various countries by magnitudes ranging from 6 to 60 percent globally, as well as lowering infant mortality and abortion rates, especially unsafe abortions (Utomo et al., 2021). Mbizvo and Burke (2016) estimate that globally family planning could prevent up to 30 percent of maternal deaths going forward.

2.2.4 Total Fertility Rate

According to the World Health Organisation (2023), the Total Fertility Rate is the number of children a hypothetical cohort of women would have at the end of their reproductive period if they were subject during their whole lives to the fertility rates of a given period and not subject to mortality. Total Fertility Rate (TFR) is the number of children that would be born to a woman if she were to live to the end of her childbearing years and bear children in accordance with age specific fertility rates.

The total fertility rates combines the number of births per women of specific ages which is grouped into five years.

2.2.5 Unintended Pregnancy

The World Health Organization (2023) defines unintended pregnancy as a pregnancy which is not wanted and/or not planned at the time of conception. Un-intended fertilities are mistimed and unwanted births that occur after the last wanted birth or a lone birth. It can also be seen from the point of the proportion of women who have more children than they desire or consider as an ideal number. In sub Saharan Africa, it is often said that the average number of children per couple is four and any number exceeding this may be an indication of surpassing the desired number of children. Over 100 million acts of sexual intercourse take place each day in the world, resulting in around 1 million conceptions, about 50 percent of which are endeavour unplanned and about 25 percent are definitely unwanted pregnancies. By definition, any conceptive fertilization occurring in a time of no such craving or aspiration by any of the partner either married or unmarried (with/without contraceptive use) are termed unintended or mistimed pregnancy (Blondel et al., 2023; Mihretie et al., 2023).

An unintended pregnancy is a pregnancy that is either mistimed (pregnancies that occur earlier than desired) or unwanted (pregnancies that occur when no children, or no more children were desired) at the time of conception (Bongaarts & Robert, 1993). One of the challenging indicators of global population change with severe socio-demographic and cultural, economic impacts on maternal and children wellbeing as well as household and society is unintended pregnancy (McLean & Thulin, 2022). The study of unintended pregnancy is very pertinent in understanding the nexus

between family planning and the reproductive health of women which is very key to total health and well-being. Unintended pregnancy and childbearing can be used as a basic measure of woman's autonomy and capacity for self-determination because it reflects a woman's capacity to determine whether and when to bear children (Adetunji, 1998). It is a worrisome reproductive and public health predicament with surging rate globally undeterred by diminishing quest of women for fewer number of children (United Nations, 2022). Studies on unintended pregnancies have received attention among demographers and public health practitioners in their efforts to understand fertility, prevent unintended childbearing, and to promote women's ability to determine whether and when to have children (Bongaarts & Robert, 1993; Bradley et al., 2012; Kost et. al., 2012; Ikamari et al., 2013 & Palamuleni et al., 2014).

2.2.6 Unmet Needs

Unmet needs for Family Planning is referred to as the percentage of women of reproductive age, married or in a union who have unmet need for family planning (United Nations, 2014). Women with unmet need are those who want to stop or delay childbearing but are not using any method of contraception to prevent its occurrence. The concept of unmet need points to the gap between women's reproductive intentions and their contraceptive behaviour. The rate of Unmet need has slightly increased from 16 percent in 2013 to According the World Health Organization (WHO), women with unmet need (UMN) are defined as those who are fecund and sexually active but not using any method of contraception and report not wanting any more children or wanting to delay the next child.

Unmet need for contraception can lead to unintended pregnancies, with their harmful consequences such as unsafe abortions and unwanted births (Agyekum et al., 2022). Women who fall under this category are those within the age bracket of 15 – 49 years (Reproductive age), who are fecund and sexually active but are not using any method of contraception and report not wanting any more children or wanting to delay the birth of their next child for at least two years. Included are: all pregnant women (married or in a union) whose pregnancies were unwanted or mistimed at the time of conception, all postpartum amenorrheic women (married or in a union) who are not using family planning and whose last birth was unwanted or mistimed, all fecund women (married or in a union) who are neither pregnant nor postpartum amenorrheic, and who either do not want any more children (want to limit family size), or who wish to postpone the birth of a child for at least two years or do not know when or if they want another child (want to space births), but are not using any contraceptive method.

2.2.7 The Concept of Pregnancy Acceptability

Pregnancy is a phase of mixed feelings for many women of reproductive age, for some it is an overwhelming positive experience while for some others it may be a phase of fears and anxiety. It marks a period of emotional, physical, identity and relational changes that are largely shaped by women's individual circumstances. Pregnancy acceptability is a term used to describe how a woman thinks and feels about a pregnancy once she learns of it and the concept of pregnancy acceptability aims to capture a woman's appraisal of the desirability and timing of the pregnancy after conception (McNamara et al., 2022). Several Frameworks have used a pregnancy intendedness model, founded on a planned versus unplanned dichotomy, to identify

women at risk of mental health and early bonding but the pregnancy intendedness model holds that pregnancy can be categorised as intended, mistimed or unwanted, with the latter two groups forming an umbrella category of ‘unintended’ pregnancy. The intendedness model requires assumptions to be made about women’s reproductive decisions when planning does not occur and does not account for circumstances in which a pregnancy may not be planned but welcomed.

Awareness on the lapses of this has prompted a reconsideration of whether pregnancy intendedness provides a sound basis for clinical decisions in identifying women in need of support. The concept of pregnancy acceptability came about as a result of the inability of the intendedness model to fully encapsulate the details surrounding pregnancy intentions and outcomes. According to McNamara et al. (2022), Pregnancy acceptability is defined as the degree to which women consider their pregnancy ‘acceptable’ after conception and it takes into account a women’s appraisal of the desirability and timing of the pregnancy, the congruence of pregnancy intentions and fertility-related behaviours and the range of emotions experienced when she learns of the pregnancy. The pregnancy acceptability framework acknowledges that a woman’s intentions and feelings towards her pregnancy may be multi-dimensional and incongruent.

2.2.8 Unplanned Pregnancy/Planned Pregnancy

Unplanned pregnancies and its complications comprise global problem that affects women, families, and communities. On the other hand, a planned pregnancy is an intentional and strategic process towards pregnancy and subsequent birthing of a child. Unplanned pregnancy is a pregnancy that is either mistimed (pregnancy

occurring earlier than desired) or unwanted (when no children or no more children are desired) at the time of conception (Ranatunga & Jayaratne, 2020). Women have more pregnancies than the number of children they want and tried to suppress such pregnancies using contraceptives (Sedgh et al., 2014). Unplanned pregnancy and its complication comprise a global problem that affects women, families and communities (Panova et al., 2016). Mothers with unplanned pregnancies pay less attention to maintain healthy lifestyles during and after pregnancy (Cheng et al., 2009). Unplanned pregnancy may also jeopardize and delay mother-infant attachment and maternal role adaptation, thus making the mothers maternally incompetent. In recent years, unplanned pregnancy has increased due to policies to increase fertility, the age of the population and lack of access to free contraceptives.

On the other hand, planned pregnancy is the deliberate and intentional decision to conceive a child. This involves careful planning and proper preparations in order to ensure a healthy parturition pregnancy and subsequent childbirth. The United Nations Population Fund (UNFPA) defines planned pregnancy as when a person decides to become pregnant before it happens.

2.2.9 Fertility Exposure Analysis

Fertility exposure analysis connotes the general study of the effects leading to fertility. It is new method for assessing the contribution of proximate determinants to fertility differentials. This approach to investigating involves attributing exposure to one or more of several states, including pregnancy, lactational and non-lactational components of postpartum amenorrhoea, absence of sexual relations and contraception to deduce fertility (Ananta et al., 1992). Several methods have tried to

find a balance in ensuring that all important aspects and grey areas are effectively covered to enable that study results are reliable. However, this evaluation strategy has proven to efficiently cover the necessities over time. An apparent explanation, due to the simplicity of this fertility survey model (fertility exposure analysis), is that there is an imitation process that has been operating, in which the reproductive behavior of the upper socio-economic strata has served as a model for the other strata. One might question whether childbearing decisions are seriously influenced by imitation. In any case, In view of the data argued against this interpretation.

If one assumes that an important mechanism for imitation is face-to-face social interaction, then it is expected that there is fertility change due to imitation to occur rather gradually, and to work its way through the women of intermediate social status and then to the women of lowest status. However, fertility exposure analysis showcases that the fertility change has been rapid, not gradual, and it has been most rapid among the women with the least educational qualification, as explained by the variations in the factors that affect fertility.

2.3 Conceptual Framework

2.3.1 London Measure of Unplanned Pregnancy Model

The London Measure of Unplanned Pregnancy (LMUP) is a psychometrically validated measure of the degree of intention of a current or recent pregnancy (Hall et al., 2017). The LMUP is increasingly being used worldwide, and can be used to evaluate family planning or preconception care programs. Pregnancy planning and preconception care is of immense benefit to women, their children, spouses and future generations. The London Measure of Unplanned Pregnancy (LMUP) is a tool that can

be used in antenatal care to identify women with unintended pregnancies who require improved access to such services (Cheney et al., 2023).

The London Measure of Unplanned Pregnancy (LMUP), a measure of pregnancy intention based on lay views and it is suitable for all categories of pregnant women. Pregnancy planning and preconception care should be key factor for enlightenment especially for women of reproductive age benefit women, their children, and future generations. The LMUP as a tool that can be used in antenatal care to identify women with unintended pregnancies, who require improved access to such services and has used and still being used across countries. The LMUP is officially a measure of both pregnancy planning and intention, making no distinction between these broad concepts, consistent with the qualitative evidence underpinning the development of the measure. Barrett et al. (2004) proposed sample LMUP questions to probe the circumstances and feelings around the time of pregnancy. The authors however advised that the current (or most recent) pregnancy of respondents should be taken into consideration when giving responses to questions such as; In the month that you became pregnant were you using or not using contraception also in terms of becoming a mother (first time or again), did you feel that your pregnancy happened at the appropriate or not so appropriate time. Questions bothering on the respondents' intentions and feelings prior to current pregnancy and finally steps taken as healthy diets and medical advice from trained practitioners.

2.3.2 Conception

Conception is a pre-requisite for fertility as the rate of conception has a lot to do in determining the rate of fertility. Conception control differs significantly in the

developed and undeveloped countries. The major aspect of fertility control in the developed countries is contraception, but since it is not completely effective; socio-demographic variables are still a factor. Unlike some other factors are almost impossible to control (such as age, time trying, and previous pregnancies), conception is not absolutely out of control others are more possible to control. Particularly, identifying the fertile window and focusing intercourse within that time can dramatically increase conception probabilities. Since so many factors may come into play, it is not possible for conception chances to be precisely estimate in each cycle (Souames & Berrama, 2020). However, when the women are charting their fertility signs and examining their chart for possible clues about their pregnancy chances, the most recommended way is for them to see is a clear ovulation pattern (best when correlated with multiple fertility signs) and well-timed intercourse within your fertile window (Skakkebaek et al., 2022).

The framework for evaluating conception in humans is presented in Figure 2.1.

Diagram

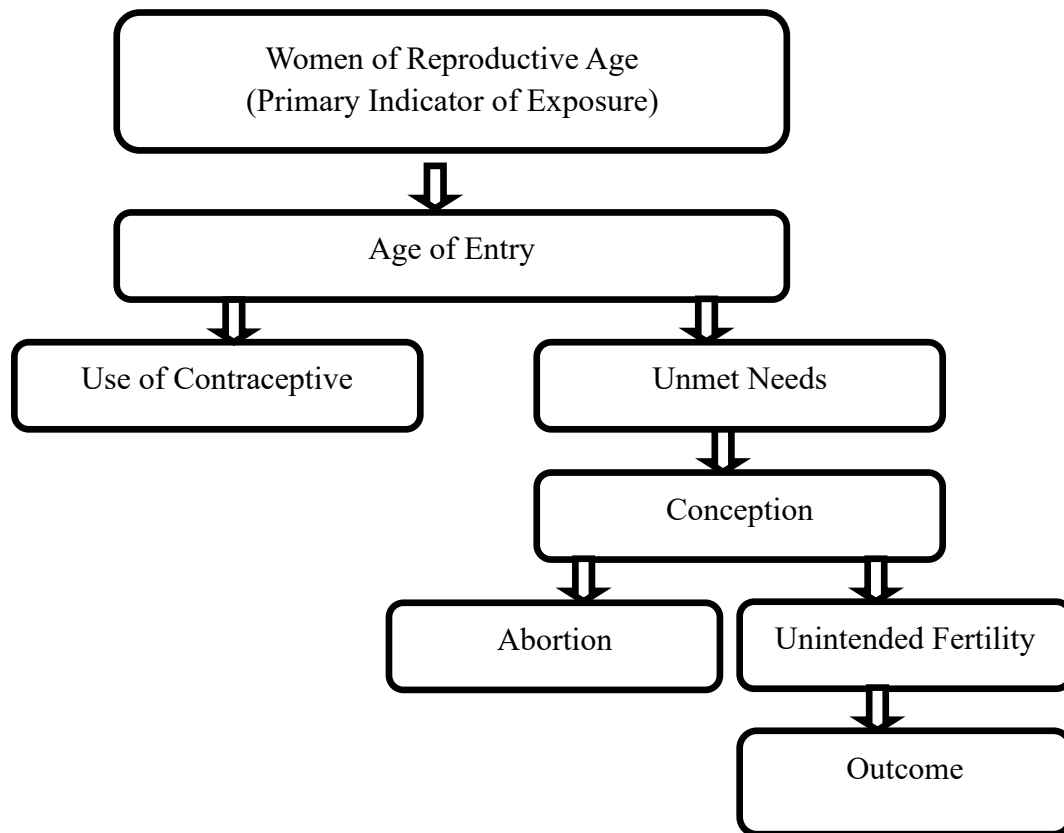


Figure 2:1: Framework for Analysing Conception
 Source: Shakkebaek et al., 2022

2.3.3 Conceptual Framework of Pregnancy Flow

The analysis in this study is based on a modified conceptual framework used by Adetunji (1998) in his work titled: ‘*unintended childbearing in developing countries: Levels, Trends and Determinants*’. The conceptual framework is diagrammatically represented in Figures 2.2 & 2.3 which illustrates the various variables that affect unintended pregnancies and child birth. From the conceptual framework in Figures 2.2 & 2.3, an analysis plan is derived from examining the relationship between the various predictor variables (determinants) and the outcome variables (mistimed and

unwanted births). The illustration below shows the first stage of confirmation of pregnancy which is closely followed by a bizarre of emotions on the next continuum depicting if the pregnancy was consciously planned, unplanned and unexpected or unconsciously planned.

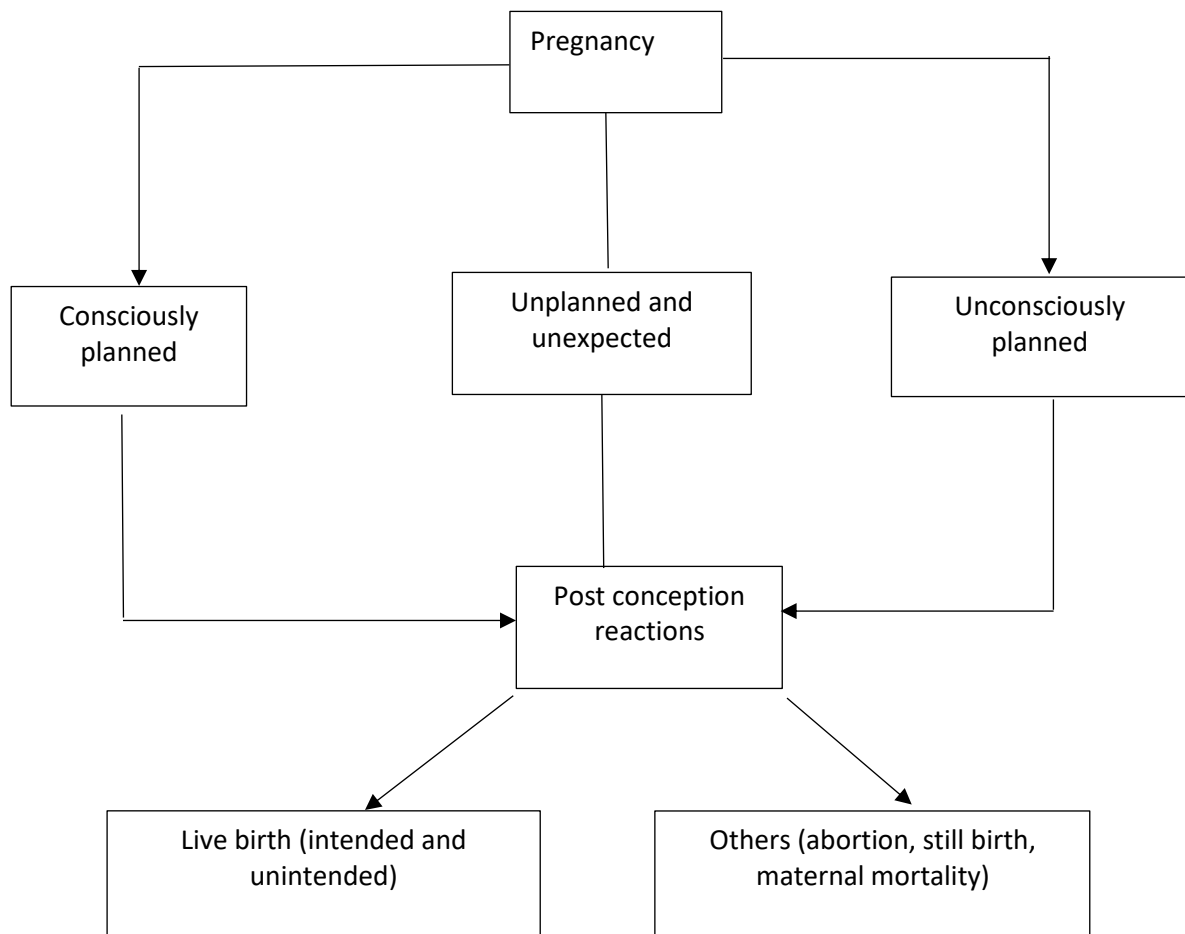


Figure 2.2: Unintended pregnancy and childbearing
Source: Adetunji Jacob (1998)

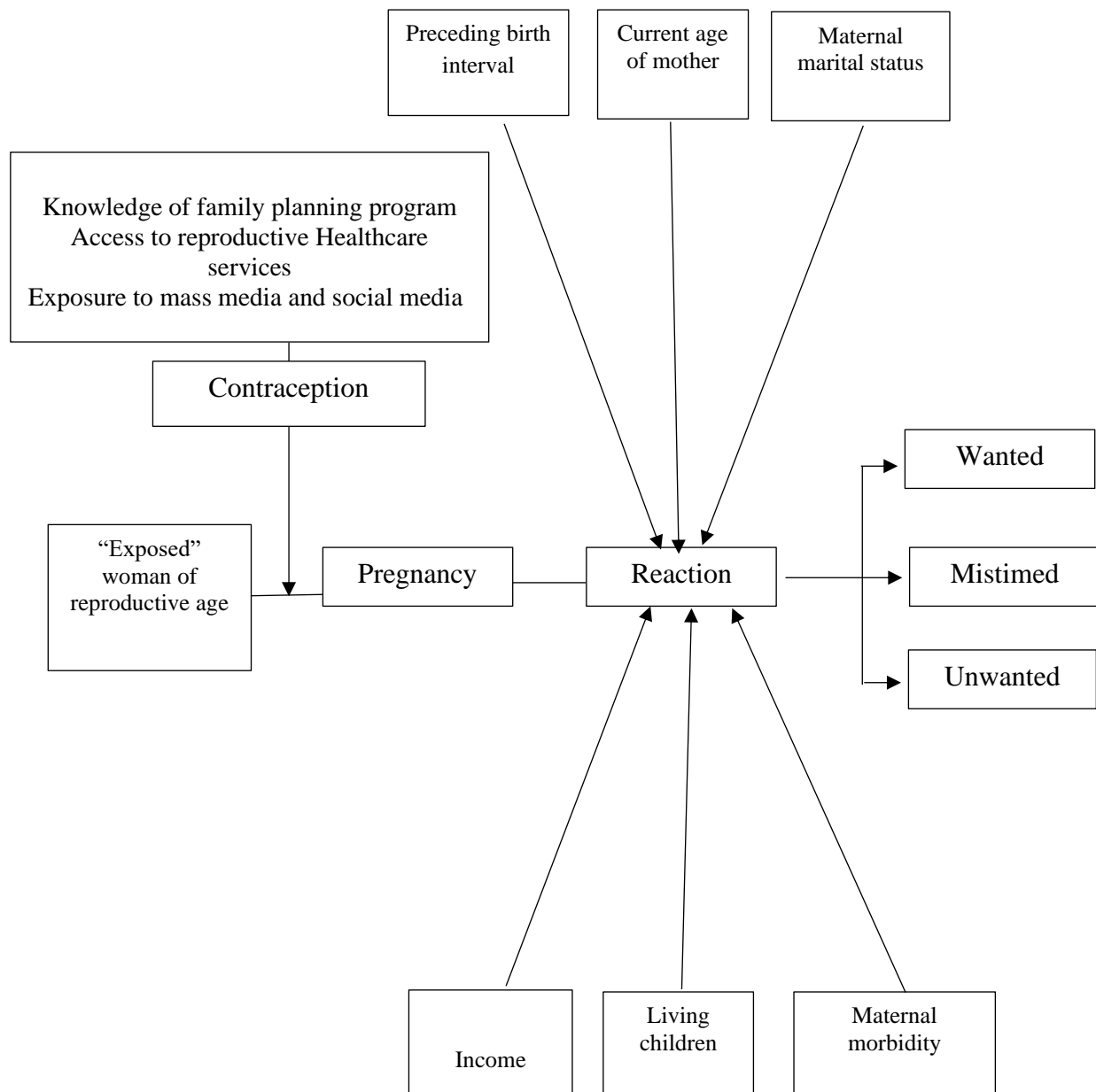


Figure 2.3: Determinants of unintended pregnancy and childbearing
Modified Framework for Analyzing Pregnancy Flow

Source: Adetunji Jacob, 1998.

The conceptual framework diagrammatically represented in Figures 2.2 & 2.3 is used to fathom the various predisposing determinants that lead to unintended pregnancy in women of reproductive age.

2.3.4 The Concept of Unmet Needs

Being fecund and sexually active without using any method of contraception, and not wanting any more children or having the need to delay the next child is a vivid explanation of unmet needs. The concept of unmet need points is the gap between women's reproductive intentions and their contraceptive behaviour. This gap represents the difference between their 'should-have' and their actual actions towards fertility. The meaning of unmet need for family planning, included in the numerator, connoting that all pregnant women (married or in consensual union) whose pregnancies were unwanted or mistimed at the time of conception. It also includes postpartum amenorrheic women (married or in consensual union) who do not adopt any birth control strategy, as well as those whose last birth were unwanted or mistimed (Figure 2.4). All fecund women (married or in consensual union) who are neither pregnant nor just gave birth and are still covered by postpartum amenorrheic, and do not want any children again or at that point in time, but are not adopting any birth control strategy.

On the hand, according to the World Health Organization (2010), Met need is a measure of the number of women who are using contraception among those who want to avoid pregnancy or delay their next birth. It is a very important indicator to monitor the reproductive health of women. Met need is simply the proportion of women of reproductive age who are using contraception to achieve their desired family size and birth spacing.

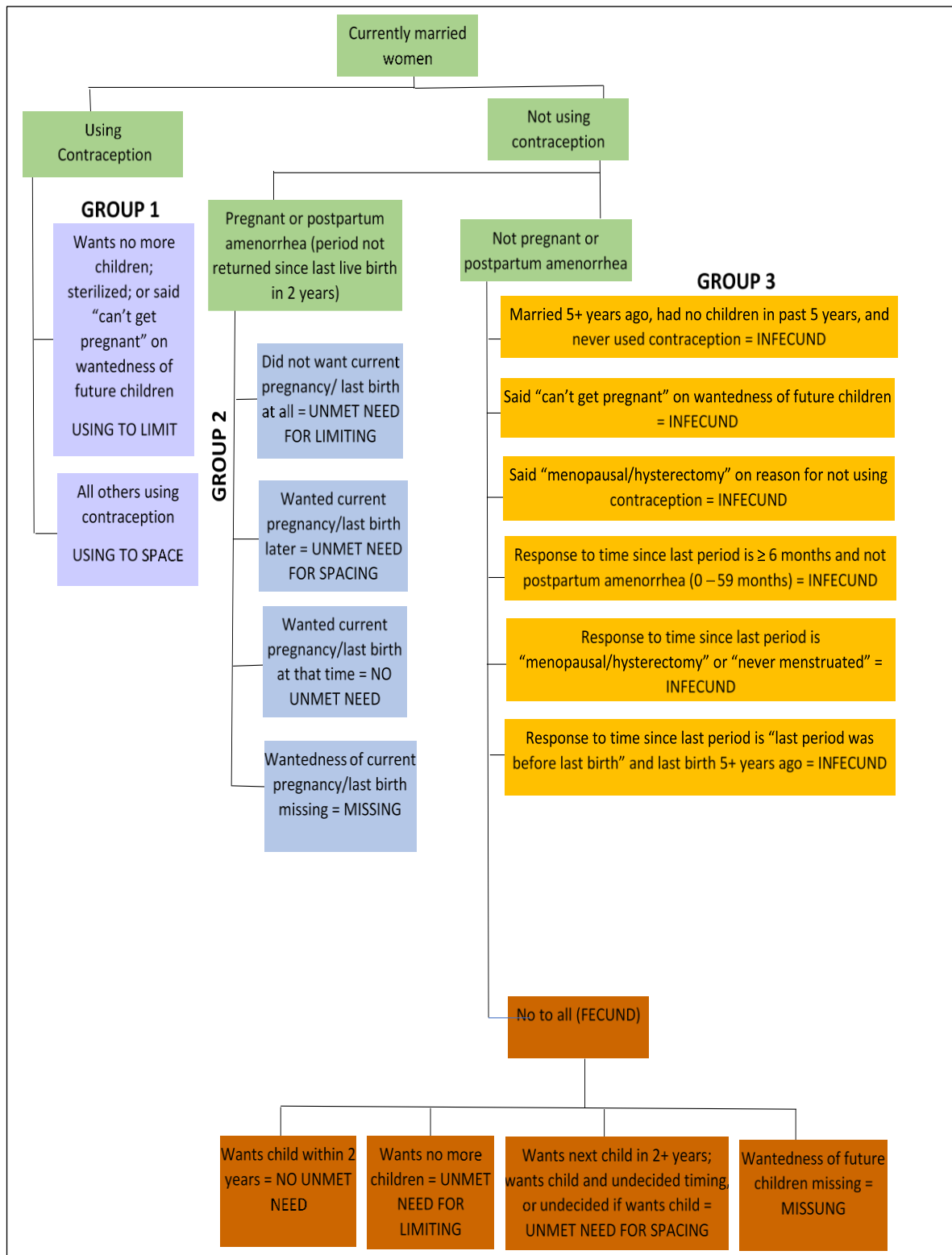


Figure 2.4: Revised Definition of Unmet Need, Currently Married Women.
Source: Bradley et al., 2012

As seen in Figure 2.5, the category that describes the unmet need do not also include women who are pregnant and amenorrheic women who became pregnant unintentionally due to the ineffectiveness of the adopted birth control method, as the conscious efforts taken excludes them, instead they are advised to sought out for a better contraceptive method (Fourman & Fazeli, 2015). The authors identified another category of women that also do not belong to the unmet need definition are infecund women. Women are assumed to be infecund in the case where they have been married for five or more years and are yet conceive and have also not used contraception within the preceding five years. Globally, sub-Saharan Africa (SSA) bears the highest proportion of women with unmet need for contraception as nearly 25 percent of women of reproductive age in the sub-region have unmet need for contraception. Unmet need for contraception is predominant among young women and it generally leads to unintended fertility.

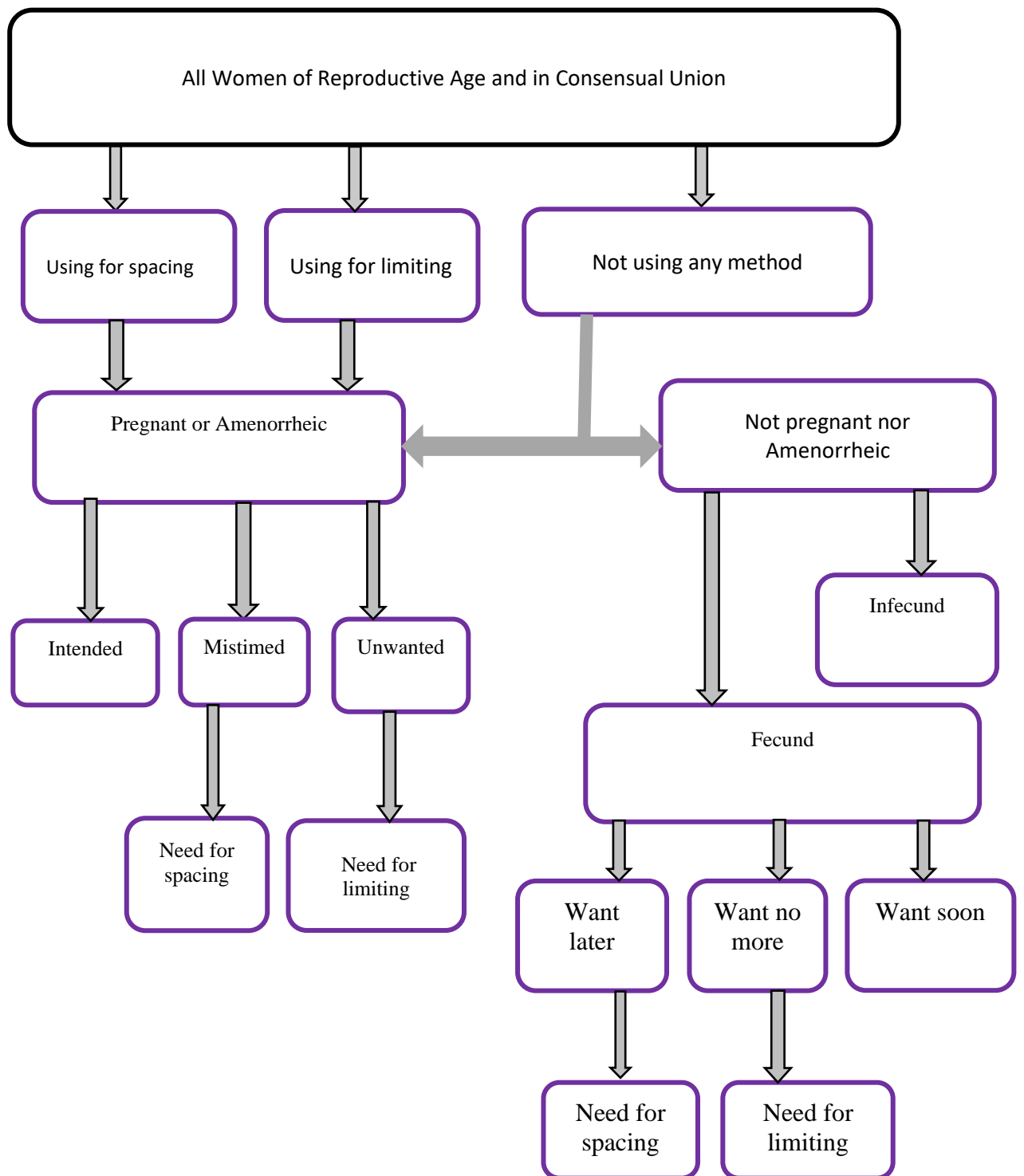


Figure 2.5: Framework for Analyzing Pregnancy Flow

Source: Fourman & Fazeli, 2015

2.4 Literature Review

2.4.1 Proximate Determinants

Fertility has a rising and evident effect on nearly every aspect of livelihood; ranging from political, economic and social facets. However, it is also affected by some factors of which Davis and Blake (1956) suggested two types affecting fertility; the direct or proximate determinants and indirect determinants or background factors. The proximate determinants (PD) of fertility are both the biological and behavioral determinants that affect the fertility directly. The proximate determinants are direct determinants of fertility, the combination of biological and behavioral channels through which the “true” determinants: the social, economic, psychological, and environmental factors that affect fertility. It is observable that if a proximate determinant such as contraceptive use, changes, then fertility necessarily changes also (with the assumption that the other proximate determinants remain constant) but with exceptions to background determinant of fertility like income or education. This is seen as a somewhat different and smaller set of proximate determinants, thus simplifying the task of constructing models of human reproduction. Analyzing the proximate determinants indicates that evident determinant- marriage/cohabitation, contraception, induced abortion, and postpartum infecundability – are the most important for the analysis of fertility levels and trends. The identification of this smaller set of proximate determinants (PDs) led to the development of a relatively simple model by Bongaarts (1978) that quantifies the fertility effect of each of these proximate determinants as seen in Figure 2.6.

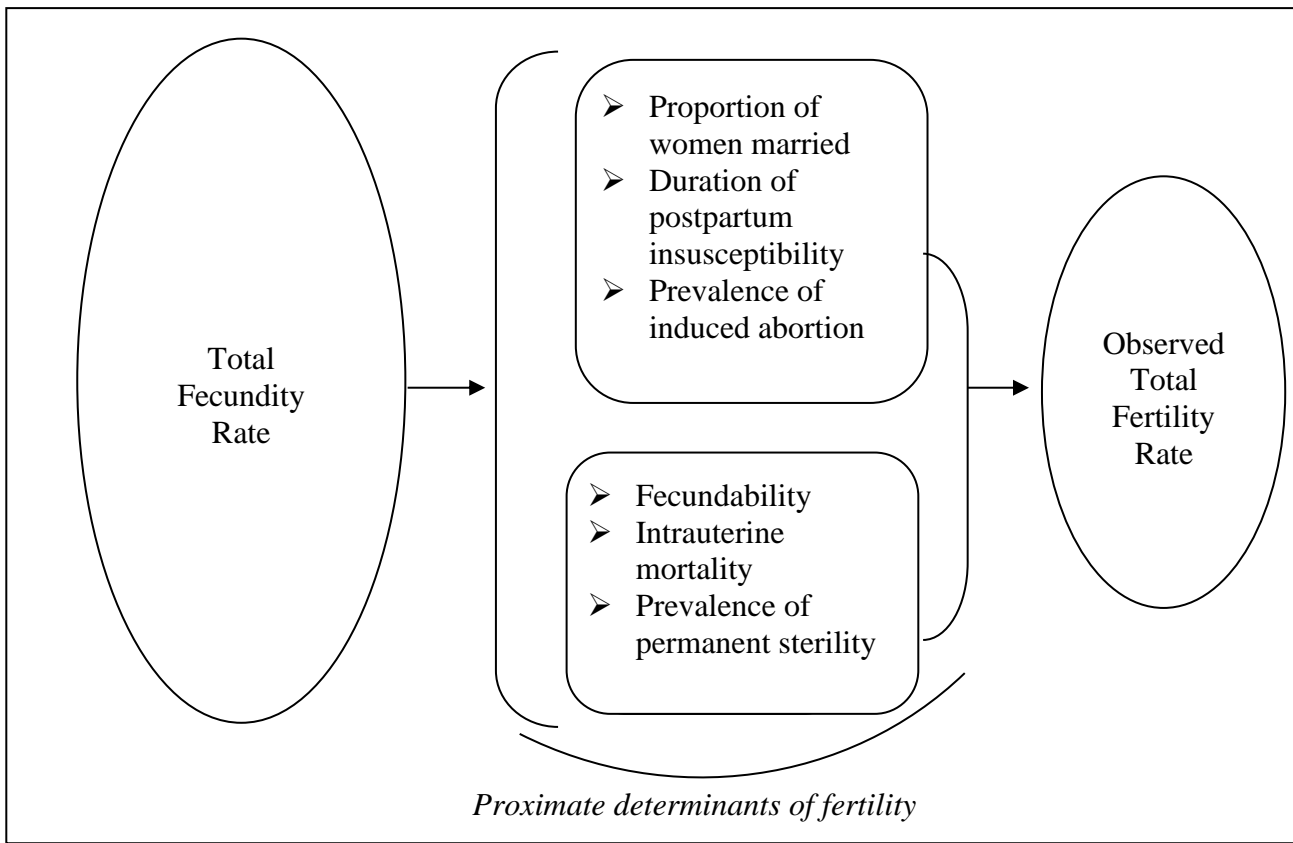


Figure 2. 6: Fertility Determinant Model Adapted from Bongaarts 1978

Fertility rate is largely affected by a number of factors, which are referred to as its proximate determinants. Bongaarts (2015) highlighted that proximate determinants (PD) of fertility are the biological and behavioural factors through which the determinants (social, economic, and environmental variables) affect fertility. It can be rightly said that a change in any of the factors directly pose effects on fertility, as the distinguishing feature of a proximate determinant has its direct implication to fertility. The study of Stover (1998) gave insight on the proximate determinants of fertility. It concluded that the differences among populations and trends in fertility over time can always be traced to variations in one or more of the proximate determinants. The study

further stressed that the proximate determinants should explain 100 percent of variation in fertility, if accurately measured and modeled.

Aside contraceptives, there are a number of factors that influence fertility (Jain & Ross, 2012). These proximate determinants include marriage or sexual union (sexual exposure), contraceptive use, postpartum infecundability, induced abortion (Chemhaka & Odimegwu, 2019). In the survey of Chemhaka and Odimegwu (2019), it was revealed that the proximate determinants of fertility play a major role in reducing fertility and can be manipulated to achieve sustained fertility decline. That is, increasing uptake of contraceptives, delaying sexual activity or marriage, and encouraging breastfeeding among women should be a priority to suppress fertility. Studying the fertility impact of the proximate determinant, Bongaarts (2015) further described the ripple effect of each proximate determinant. For marriage, union and exposure, even though extramarital sex and pregnancy are becoming more prevalent in developed and developing countries (United Nations, 2014). The assumption in the original PD model that sexual activity and childbearing only take place within marriages or consensual unions was always an issue in some populations, and has become increasingly less tenable (MacQuarrie, 2014). Bongaarts further asserted that the index of childbirth in marriage is much more significant compared to that from extra-marital affairs, as the use of contraception is more prevalent in the later (Bongaarts, 2015).

The use of contraception has risen over time, the proportion of use that overlaps with postpartum infecundability has become significant in societies with long periods of breastfeeding or abstinence (Stover, 1998). Ignoring this overlap (as was done in the

original model) can therefore generate inaccurate results. This is particularly the case in countries with long durations of postpartum infecundability and with family planning programs that promote contraceptive use in the early postpartum months. In Bongaarts (2015) assertion, the index of contraception has been revised to exclude the overlap of contraceptive use with postpartum infecundability. Trussell (2011) studied the rate contraceptive use effectiveness and explicitly insighted that female and male sterilisation (0.99), pill (0.91), intrauterine device (0.99), injectable (0.94), implants (0.99), male condom (0.82), female condom (0.79), rhythm/periodic abstinence (0.76), and withdrawal (0.78).

There is so much factored around postpartum that impacts on fertility levels and trends. The data collated in the survey of Spring (2017) indicate that there are avoidances to any overlap between use and post-partum insusceptibility period, and there is also a category that uses contraception weighted by effectiveness, based only on exposed women. It was further stressed that the study's result assigns effectiveness the control of fertility rate, assigning (1) to male and female sterilization, (0.95) to IUD and Norplant, (0.90) to the pill and injection, and 0.70 to every other method. Approximating the duration of post-partum infecundity was 8.9 months in 2005 and 9.8 months in 2010 (Spring, 2017).

Finally, the general abortion rate is estimated as 32 per 1000 using data from Sedgh et al. published in *The Lancet* in 2012. The abortion index is a function of the number of births averted by an abortion. In the original formulation, this number was estimated based on the level of contraceptive prevalence with an equation that had limited analytic foundation (Bongaarts & Robert, 1993). Research by Bongaarts and

Westoff (2000) examined this issue and affirmed that there is a huge number of birth averted by abortion. Fertility is majorly determined by these factors and others like; age of first marriage, and the original model which assumes that the proximate determinants at a point in time affect fertility at the same time, are part of the biological and behavioural factors through which the determinants (social, economic, and environmental variables) affect fertility, as connoted by Bongaarts (2015).

2.4.2 Accessibility of Family Planning and Health Services

Access to family planning services in Nigeria is impeded by multiple barriers, including awareness, educational, socio-cultural, economic, and infrastructural factors that collectively create a complex landscape limiting women's ability to access and utilize these essential services. Despite national policies aimed at improving reproductive health coverage, significant challenges persist across geographic regions and demographic groups (Federal Ministry of Health, 2020). A systematic review identified challenges such as limited education, desire for more children, partner disapproval, religious and cultural beliefs, and logistical issues like cost and difficulty accessing services. Fear of side effects and misconceptions about family planning methods were also prevalent barriers (Adelekan et al., 2020). These numerous barriers create a situation where even when services are physically available, numerous factors may prevent women from accessing them.

Physical access remains a significant obstacle, particularly in rural and remote communities. A comprehensive geospatial analysis by Makinde et al. (2022) found that only 43 percent of Nigerian women lived within 5 kilometers of a facility offering modern contraceptive services. This distance barrier was most pronounced in

northeastern states, where the average travel time to the nearest family planning provider exceeded 3 hours during rainy seasons. In Lagos State, a qualitative study found that geographic proximity significantly influenced access to family planning services. Women living farther from clinics faced challenges like traffic congestion and limited public transportation, leading to reduced service utilization (Akinyemi, et al., 2022).

Urban accessibility also presents unique challenges. Adejoh & Osazuwa (2024) documented how transportation cost and traffic negatively impact women's accessibility to family planning services in Lagos State. This highlights how urban poverty can create significant accessibility challenges even in areas with relatively dense healthcare infrastructure. The quality of available services significantly impacts accessibility beyond mere physical presence. A mystery client study conducted across 201 facilities in six states by Schwandt et al., (2021) revealed deficiencies in service delivery. Only 34 percent of providers offered comprehensive counseling on available methods, side effects, and contraindications. Additionally, 28 percent of facilities had stock outs of at least one modern method during the three-month assessment period, forcing clients to either accept a less preferred method or leave without service. These quality issues often discourage women from seeking services or lead to discontinuation due to inadequate support for managing side effects or method complications.

Provider attitudes and biases represent another dimension of quality concerns affecting accessibility. Studies by Akinola et al., (2020) found that unmarried women aged 15-24 frequently experienced judgmental treatment when seeking contraceptive

services, with 62 percent reporting provider disapproval or refusal to provide certain methods based on age or marital status. Such experiences discouraged future service utilization and contributed to high discontinuation rates among young users. Among adolescent girls in Nigeria, a scoping review highlighted barriers such as provider bias, lack of social support, financial constraints, and cultural and religious norms. These factors collectively hinder adolescents' ability to access and utilize family planning services (Okonofua et al., 2022). The stigmatization of adolescent sexuality creates multiple access barriers that particularly affect this vulnerable population.

Financial barriers remain substantial despite policies intended to provide free or subsidized contraceptive commodities. A household survey by Ejike et al., (2021) across four states found that while contraceptive commodities were officially free in many public facilities, clients still faced significant costs including transportation (averaging ₦800-1,500 per visit), registration fees (₦200-500), and unofficial payments to expedite service (₦500-2,000). These combined costs represented approximately 15-30 percent of monthly income for women in the lowest wealth quintile. Private sector options, while more convenient and potentially offering better quality, remain unaffordable for many. Oyediran and Isiugo-Abanihe (2002) documented how pharmacies and private clinics charged 3-5 times more for contraceptive services compared to public facilities, limiting access for lower-income women who might prefer these sources due to perceived better quality and confidentiality.

Socio-cultural norms present significant barriers beyond physical and economic factors. Ethnographic research by Usonwu et al. (2020) in communities across

Nigeria's six geopolitical zones identified how women's restricted mobility in some cultural contexts limited their ability to access services independently. In northwestern states, 67 percent of married women required husband's permission to travel outside their immediate neighborhood, directly impacting family planning access. Confidentiality concerns also influence service utilization. Okonofua et al. (2019b) found that fear of being seen at family planning clinics deterred many women, especially adolescents and unmarried individuals, from accessing services. This concern was particularly acute in small communities where privacy was difficult to maintain, leading women to seek services in distant locations or forgo care entirely. Nigeria's decentralized health system creates accessibility challenges through fragmented implementation of family planning policies. Research by Akinyemi et al., (2022) highlighted how variations in state-level commitment, funding, and implementation created geographic inequities in service accessibility. While some states like Lagos and Kaduna demonstrated strong political will through dedicated budget lines and supportive policies, others allocated minimal resources, resulting in significant disparities in service availability. Additionally, frequent stock outs and supply chain disruptions undermine access to preferred methods. A longitudinal study of 120 facilities across 12 states by Ibrahim et al. (2021) documented how 58 percent experienced stock outs of at least one modern method quarterly, with long-acting reversible contraceptives particularly affected by supply inconsistencies, forcing clients to switch methods or discontinue use. The persistent decline in family planning utilization among Nigerian women is largely attributed to myths, fear of adverse effects, limited understanding of methods and male partner opposition. These factors

must be systematically addressed to improve reproductive health outcomes. (Udom et al., 2023; Obafemi & Onagbiye, 2024)

2.4.3 Perception and Attitude of Women towards Family Planning

Globally, family planning (FP) is an essential element of reproductive health care and contributes immensely to the reduction of the worldwide burden of maternal and child morbidity and mortality (Cates et al., 2010). Family planning services primarily enable couples and individuals decide freely and responsibly the number and spacing of their children and to have the information and means to do so and to ensure informed choices and make available a full range of safe and effective methods. In almost all the regions of the world, contraceptives are used by majority of women in the reproductive age range (15-49 years) and its goals are commonly defined using the concepts of unmet needs (UNFPA, 2004; United Nations, 2017; Kabir et al., 2017).

It has been estimated that meeting women's need for modern family planning services could prevent about one-quarter to one third of all maternal deaths annually worldwide. It was also found that fulfilling unmet contraceptive need can prevent an additional 150,000 maternal deaths globally annually; and an estimated 40,000 maternal deaths in Nigeria could be averted annually (Singh et al., 2003; Izugbara, 2017). Unsafe abortion, which is a common consequent of poor family planning and a major contributor to maternal death has been reported to account for up to 56% of unintended pregnancies in Nigeria (Izugbara, 2017).

Family planning has become a major strategy of population control both at the national and global level. Yet, population growth in Nigeria remains high especially

in the rural areas. The annual population growth rate of Nigeria stands at 3.5 percent and the total fertility rate is 6.0 lifetime births per woman (Ottong, 2010). Nigerian women approximately have an average of 6 to 7 children. However, family sizes differ and vary considerably within countries and in Nigeria within ethnic groups and with an estimated population of about 180 million plus, Nigeria is fast becoming one of the most populated nations in the world, (NPC, 2015). With this, the total fertility rate is 15 percent higher than what it would be if all unwanted births were avoided (NPC & ICF International, 2014). The resultant effect of this population explosion is that the available resources and infrastructure of the country is stretched above its limit or carrying capacity, consequent upon which, are socio- dislocation, economic strangulation and political instability (NPC, 2015). It equally poses major health and economic challenges to the nation as households with many children are more likely, overtime, to become poor and less likely to recover from poverty than families with few children. In order to have effective social-economic wellbeing and good family structure, the parents must be made to understand and appreciate the usefulness of family planning. Every human family requires careful planning to avoid unintended births. A high number of children in a family could present an unbearable burden to the parents and the resultant effect of this is often, malnutrition, starvation, poor health conditions, child abuse, high mortality rates, and reduced parental care (Center for Disease Control, 2014).

Family planning is the preparation of when to have children and the use of birth control and other techniques to implement such plans (NPC & ICF, 2009). Family planning services are defined as educational, comprehensive, medical or social

activities which enable individuals, including minors, to determine freely the number and spacing of their children and to select the means by which this may be achieved (Becker et al., 2007). Raising a child requires significant amount of time, resources, social, financial, and environmental efforts and family planning services can help assure that resources are available (Orbeta, 2005; United States Department of Agriculture, 2006). Furthermore, children from large families are usually less well-nourished and less well educated than those from smaller families. It was in view of this that Nigeria adopted its first population policy in 1988, titled “National policy on population for development, unity progress and self-reliance”. In spite of this policy being in place, contraceptive prevalence in Nigeria is one of the lowest in the world. The NPC recorded prevalence of 13 percent, and in 2013, NDHS recorded a marginal rise to 15 percent (NPC & ICF International, 2014). The NPC (2014) reports that, although 85 percent of Nigerian women and 95 percent of Nigerian men report having knowledge of a contraceptive method, only 15 percent of currently married women use a contraceptive method, with an unmet need for family planning of 16 percent among married women.

Women's perceptions and attitudes toward family planning in Nigeria are majorly influenced by a myriad of factors, including cultural beliefs, religious norms, partner support, and knowledge levels. A study conducted among Igbo women in southeastern Nigeria revealed high levels of awareness (80%) and approval (87%) of family planning methods. However, the actual practice of modern family planning was low (25%), with the most common methods being natural methods like the Billings/safe

period. The predominant reason for non-use was partner rejection, highlighting the significant role of male influence in family planning decisions (Okezie et al., 2005). Similarly, research in a high-density, low-income urban area of Enugu found that while knowledge (81.7%) and approval (86.2%) of family planning were high, only 20% of women were using any family planning method. Again, partner disapproval emerged as the most common reason for non-use, underscoring the socio-cultural influence of men on their wives' reproductive choices (Nwokocha et al., 2001). In rural communities of Ebonyi State, perceptions of family planning were shaped by beliefs that it interferes with divine plans and reduces household income due to decreased manpower for agricultural activities. Poor partner involvement and support were also significant deterrents (Okafor et al., 2020). A study in selected rural communities of Ibadan highlighted that while women perceived family planning as beneficial for controlling population and improving maternal health, fears of side effects and concerns about promoting promiscuity hindered adoption. Additionally, family planning was often viewed as a woman's responsibility, leading to limited male support (Ajayi et al., 2019).

2.4.4 Determinants of Unintended Pregnancy

2.4.4.1 Age at Marriage

A significant rate of pregnancy and fertility rate is traceable to the rampage of marriages. This is because as most fertility occurs in marriage, a rise in the age of marriage can reduce world fertility. Later marriage means less female fertility exposed to intercourse, which can particularly affect already sub fecund women. Other aspects to livelihood that effectuate marriage leading to fertility are women's

educational level, and the number of women in professions and careers which also dampens fertility rates. Western Europe in response to the Malthusian challenge of overpopulation in the nineteenth century, concurred to this, an increase in the marriage age, which significantly cut fertility as earlier marriages are major determinants to fertility. In the under-developed countries, some reduction in fertility rate is currently apparent because of a rise in the marriage age due to increasing education and employment, and a legal attempt is put in place through legislation to minimize the rate of early marriages, setting an age range limit of which it is prohibited if standards are not met. A major advantage of significant worldwide rise in the marriage age could at best lower the birth rate to only 2 percent per year, which is still too high. Legal measures do not appear to be worthwhile in increasing the standard marriage age since they encourage extramarital relationships.

In his study, Bailey (1989) affirmed that the woman's age at first marriage is inversely and significantly related to fertility. Therefore raising the age of marriage by means of some social legislation or extended schooling can lower fertility substantially. This was also stated by Chakrabarti & Chaudhuri (2011) who referred to general marital fertility as "the number of children born per year per 1000 married women having particular indicators e.g. income group, literacy rate or religious group". They argued that the birth rate in India might be reduced by as much as 30% if all the women married by the age of 19 years instead of 18 years. Nagi (1983) affirmed that delaying the age at marriage contributed to a decline in fertility in Muslim countries. He stated that since marriage signifies the initiation of male sexuality, an increase in age at marriage will mean the postponement of sexual activities and the first birth. Also,

Pillai (1984) examined the effect of age at family formation on the family size. The age at family formation is the mother's age at the birth of the first child.

There is a high expectation which is built on the fact that modernization significantly affects the nature of marriage by changing the status of women, encouraging men with new careers to postpone starting a family, and by raising economic standards. The effect of these changes in fertility rate can only be observed and not regulated. Therefore, when policies are strictly placed in ensuring that standards that pertain to age at marriage are adhered to such as the prevention of child marriage, there will be a decline in the rate of fertility.

2.4.4.2 Knowledge of Family Planning

The knowledge of family planning is a crucial determinant of unintended pregnancies and childbearing, particularly in developing regions. Recent data from 36 Sub-Saharan African countries show that women who know at least one contraceptive method are significantly less likely to experience unintended pregnancies, which remain prevalent at around 30% (Solanke et al., 2022). In Nigeria, adolescents and young women are particularly affected due to limited access to accurate reproductive health information and services. Eze et al. (2024) found that poor knowledge of contraception among unmarried adolescents contributes to low usage and high abortion rates, ranging from 20% to 51%.

A study conducted in Rivers State indicated that women who are well-informed about family planning are more likely to adopt contraceptive methods, especially during antenatal care visits (Amadi & Francis, 2024). Similarly, a 2022 study in Ilesha reported a 58.2% unmet need for family planning, with knowledge gaps, fear of side

effects, and poor partner support being key contributing factors (Akanbi et al., 2022). Even when women have some awareness of contraception, misconceptions and stigma, particularly among youth, continue to hinder effective use (Makinde et al., 2023). Improving the knowledge of family planning among women of reproductive age is essential for reducing unintended pregnancies and supporting informed reproductive choices.

2.4.4.3 Impact of Women's Education on Pregnancy

Unintended Pregnancy is mostly stemmed from the inability to regulate conception within and outside marriage. However, girl-child education has helped in reducing the rate of unintended conception and childbirth. Women's education level could affect fertility through its impact on women's health and their physical capacity to give birth, children's health, the number of children desired, and women's ability to control birth and knowledge of different birth control methods (Kim, 2016). Each of these mechanisms depends on the individual, institutional, and country circumstances experienced. In the words of Canning et al. (2015), woman empowerment (increasing women's decision-making capacity) is identified as a key solution that can change the prevailing fertility and contraceptive utilization patterns.

Studies conducted in Nigeria and Ethiopia indicates that women with higher level of education have reduced fertility compared to women with low or no education and they are not particular about the sex of the child as long as it is a child. For example, Appleton (1996) found a correlation between education and reduced fertility among women. This is also in line with Akpa and Ikpotokin (2012) that noted that there is a likelihood of women who have had post-secondary education to have lesser children

than their counterparts with low education. As a matter of fact, their investigation unravelled that when only the socio-demographic characteristics are put into consideration, women with no formal education and those with only primary school education show almost fifty percent increase in the level of fertility compared with women who had tertiary education. The culture of the people is a strong force that still keeps the people behind. The reality behind educated women is their educational qualifications which increases the possibility of earning higher incomes so they tend to see raising children as the more expensive option because of the income forgone due to active participation that comes with child birth. McCrary and Royer (2011) opined that it is not that wages are the only measure of the value of the mother's time, they also contribute to family income. In the cases where educated women marry educated men, the income effect would suggest that these women would be expected to have more children because they can afford to. However, this is a theoretical concept and the actual income effect is often small (Kim, 2016). On the contrary, empirical findings have shown that as women's incomes increase, they tend to have fewer children. And since educational level is an important determinant of earnings, it follows that female education indirectly reduces fertility through their earnings.

There is a growing consensus that investments in the education of young girls and women yield additional private and social returns, including improved child health and nutrition outcomes (Schultz, 2002). Education may also lower fertility through improvements in child health and reduced rates of child mortality as women need to have fewer births to yield the same desired family size (Lam & Duryea, 1999). Women's education also affects fertility through knowledge and more effective use

of contraceptive methods (Rosenzweig & Schultz, 1989) or by increasing female autonomy and bargaining power in fertility decisions (Mason, 1986). A negative association may arise due to omitted variables, such as individual ability or household and community resources, which affect both schooling and fertility decisions. In addition, schooling opportunities often are not randomly placed in communities (Duflo, 2001; Pitt et. al., 1993). Furthermore, if fertility choices lead to interruptions in schooling, then fertility may be an endogenous variable within the context of schooling decisions (Angrist & Evans, 2000). Sorenson (1989) stated that the expectation that the children will be afforded the same educational opportunities as their parents also suggests a downward pressure on family size goals that would be experienced by both spouses. The educational attainment may also affect one's inclination to invest in other sources of personal satisfaction rather than increase family size.

Maternal education has been found to influence age at first birth positively, age at first birth further influences the number of children the couples have negatively. High educational attainment impinges on attitude change towards fertility behaviour. It may also improve literacy levels which may determine access to information related to acquisition of family size. Improvement of the status of women through education and participation in labour market is important because it reduces the birth rate. Informal education is also important since most of what people learn at school about sex, reproduction and families comes to them informally through peer communication and informal exposure to information through class and non-class situation (Gatara, 1982). She further found that marital education has a negative effect on fertility rate and

recommended that education should be made compulsory as it will help increase the age at marriage for females, eliminate young age at marriage and/or change the cultural perception that young girls should get married and bear children. In addition, education will facilitate acquisition of information on family planning, prepare females for search of employment outside their home and compete with the demand for raising large families. Although husbands' education is not statistically significant it does exhibit a negative effect on fertility. Thus parents who obtain good education may earn a higher salary through better employment opportunities. She concluded by saying mass education may be a key to fertility decline.

2.4.4.4 Access to Reproductive Healthcare Services

Restricted availability of reproductive health services such as access to contraceptives, personalized counselling, and adolescent-friendly support has been repeatedly associated with increased instances of unintended pregnancy and unplanned births. In Nigeria, modern contraceptive prevalence remains low, with only about 15 percent of married women and 38 percent of sexually active unmarried women reporting use, leading to an unmet need of approximately 21 percent (Ukpai, 2024; Abujah, 2025). Adebowale and Palamuleni (2023) observed that women who did not receive family planning guidance from healthcare providers were almost twice as likely to have additional children, even when they no longer wished to expand their families. Financial limitations have significantly impacted service delivery, as Nigeria experienced a 97% drop in federal funding for family planning between 2024 and 2025, leading to reduced access to contraceptives and a decline in outreach efforts (Nigeria Health Watch, 2025). Research from across Sub-Saharan Africa highlights a

strong connection between limited access to reproductive services and the high levels of unmet contraceptive needs, which contribute to increasing cases of unintended pregnancies (Discover Social Science and Health, 2025). Closing these service gaps is essential for enabling individuals to make informed choices about their reproductive health and for easing the broader public health impact of unplanned childbearing.

2.4.4.5 Exposure to Mass and Social Media

Exposure to mass media and social media significantly influences unintended pregnancy and childbearing, acting as both a promoter of informed contraceptive behaviors and, conversely, a source of misinformation that increases risk. A comprehensive study across 28 countries revealed that adolescent girls exposed to family planning communication preferred fewer children (adjusted odds ratio ≈ 0.76) compared to their unexposed peers (BMC Women's Health, 2023). Similar findings were reported in a research conducted by Duah et al. (2022) in Sub-Saharan Africa using DHS data, revealing that exposure to family planning messages via radio, TV, or print media increases modern contraceptive use among women of reproductive age. In contrast, the proliferation of misinformation on social media platforms has emerged as a significant barrier to effective contraceptive use. Recent studies highlight that digital influencers circulate baseline informations about contraceptives causing adverse outcomes such as infertility and cancer. These misleading narratives have contributed to a decline in the uptake of evidence-based contraceptive methods, as users increasingly resort to less reliable alternatives, including fertility-tracking applications. This shift in behavior has been linked to a resurgence in unintended

pregnancies and abortion rates, underscoring the detrimental public health implications of digital misinformation (Pfender, 2024; KFF, 2025).

2.4.4.6 Income and Pregnancy Intentions

Socio-economic status, particularly income level, remains a critical determinant of unintended pregnancy and unplanned childbearing across diverse populations. Evidence drawn from an analysis of over 187,000 women in 61 low- and middle-income countries demonstrates a clear pattern: women with lower income and limited formal education are markedly more susceptible to unintended pregnancies compared to their wealthier, more educated counterparts (Aragaw et al., 2023). In Nigeria, teenage pregnancy was shown to concentrate significantly among adolescents from poor households, underscoring the urgent need for income-sensitive policy interventions. This shows that teenage pregnancy disproportionately affects the poorest adolescents, with wealth-related inequalities strongly influencing reproductive behavior (Okoli et al., 2022). Recent findings from Ghana highlight the significant influence of socioeconomic factors on reproductive outcomes. Analysis of the 2022 Demographic and Health Survey reveals that nearly 39% of women of reproductive age reported experiencing unintended pregnancies. This high prevalence is closely tied to disparities in household wealth and educational attainment, with women from lower-income and less educated backgrounds disproportionately affected. These findings suggest that socioeconomic disadvantage continues to be a major determinant of reproductive autonomy in Ghana (Agyeman & Arhin, 2025).

2.4.4.7 The number of Living children and Unintended Pregnancies

Many studies have recorded that women with five or more children often continue to experience unintended pregnancy due to unmet contraceptive needs and sociocultural norms favoring larger families (Bain et al., 2019; Yawson et al., 2020). A cross-sectional study conducted among 488 pregnant women in Tabriz, Iran, found that approximately 30.7% of pregnancies were unintended, 24.3% unwanted and 6.4% mistimed. The study reported that women with more living children had significantly poorer pregnancy experiences, marked by higher levels of stress and lower pregnancy satisfaction and thus suggesting that accumulating births may impact both the likelihood and experience of unintended childbearing (Maghalian et al., 2024).

2.4.4.8 The Influence of Religion and Culture on Pregnancy intentions and Fertility

Religion has an ample upshot on pregnancy intention and outcome especially in sub-Saharan Africa. It plays a decisive role in pregnancy behaviour and impacts the debut and frequency of sexual activity, contraceptive behaviour, cohabitation and marriage. Ottenbacher (2020) asserted this notion and explained further that religious rules on alcohol consumption relate to the likelihood of miscarriages; religious values transmit into abortion laws. Hence, as fertility behaviour determines the time when young women have their first live birth, there becomes a succinct explanation on how it is affected by religiousness. This paper of Heineck (2004) suggests that religions may exert both direct and indirect influence on individuals' fertility behavior. Differing fertility norms between religions may for example have a direct impact on contraception or abortion. Furthermore, direct and indirect effects on fertility behavior may arise because of the religions' ideology with regard to for instance gender role

attitudes. The paper also expresses that addition to females' own religious affiliation and belief, the religious composition of unions has to be taken into account as well. This is because there may be a higher potential for conflicts over fertility decisions within unions in which the partners do not share the same religion (Heineck 2004). Another way in which fertility ratio is affected by religiousness is the Characteristics, bargaining and marital stability that comes with individual religious belief, the nature of the religious doctrine in respects to aspects like unnegotiable marriage stability, use of contraceptives, abortion etc., and how in-depth the individual is immersed in the religion (Goldscheider, 1971).

Peri-Rotem (2015) explored the changing relationships between religiousness and childbearing in comparing renowned Nations like Britain, France and the Netherlands also employing longitudinal analyses to examine the influence of religion on subsequent childbearing. Although the secularization paradigm assumes that the influence of religion on individual behavior will diminish over time, the study found that religious affiliation and practice continue to be important determinants of fertility and family formation patterns. However, there are some variations in the relationship between religion and fertility across countries; while in France and the Netherlands fertility gaps by religiosity are either consistent or increasing, in Britain, this gap appears to have narrowed over time. These findings suggest that fertility differences by religion also depend on the particular social context of religious institutions in every country (Peri-Rotem, 2015).

Although there is a general agreement that the influence of religious institutions on society in Europe has weakened, there is an ongoing debate on the continuing

influence of religious ideas on attitudes and behavior of individuals (Voas & Doebler, 2011). However, in the past decade, there has been a renewed interest in the effect of religion on fertility, and recent studies have pointed to the persisting influence of religion on fertility patterns; for example, Frejka and Westoff (2008) found that in Europe and the USA, women who identify as Protestants or Catholics had higher fertility rates compared with women who declared having no religion. Aside this, studies have shown that within each denomination, the extent of devout in terms of service attendance and importance of religion in daily life is proportional to the size of the family.

In a comparative study of 18 European countries, Philipov and Berghammer (2007) reported a positive correlation between different measures of religiosity (e.g., affiliation, practice and self-rated religiosity), and individuals' intended and actual fertility. The positive effect of religiosity on family size received further support in a longitudinal study from the Netherlands, showing that church attendance is a strong predictor of future childbearing (Berghammer, 2012). In addition, using cross-sectional data from 1985 and 1999 in Spain, Adsera (2006) has found that fertility differences between practicing and non-practicing Catholic women have grown, since fertility decline occurred only among the latter group. The effect of religiousness on pregnancy and fertility is not just evident in Christianity as the more devoted a man is to Islam as a Muslim, there is an increased tendency of breeding a larger family as polygamy is an acceptable practice in Islam. Also, for Muslim women, the probability to have an abortion does not differ significantly from those women who report being non-religious (Ottenbacher, 2020).

Gatara (1982) stated that no detailed probe as to how religious institutions enter into a decision making process about family size has been made. She goes on to say that Christian religion is capable of affecting fertility preferences and family size especially in cases of Christian schools because of the means by which the church imparts its values on young people in schools. Harrison (1982) stated that those religions which are against family planning, like Roman Catholic Church and the Zion Christian Church, cannot quote a verse that is against family planning in the bible. Those people impose their beliefs and play on other people's feelings until they feel guilty. If you press further you find that they fear that family planning will encourage immorality and premarital sex. In India it was found that superstitions, beliefs and customs even without religious restrictions, greatly influence family planning. General marital fertility in India is lower among Christians than Hindus and Moslems (Chakrabarti & Chaudhuri, 2011). In the study on the attitudes of black South African men towards fertility and family planning, Lotter (1977) found that less than 30% of the sample believed that God or "Badimo" does not approve of family planning. Mostert and Lotter (1990) stated that fertility decline does not and cannot occur in widely differing socio-economic contexts. Its onset appears to be determined more by some cultural factors such as the role and status of women; than by any objectively ascertainable development factors such as labour force participation of women, reduction of infant mortality rate levels and education. He concluded by saying the Indian population is still very high in their country of origin because their culture still plays an important role. Uzoma (2004) defined culture of a society as a way of life of its members, the collection of ideas and habits which they learn, share and transmit

from generation to generation. It also defines accepted ways of behaving for members of a particular society. Culture is learned and transmitted through socialization among and between the various organs in any society.

Every culture contains norms and values that serves as a guiding principle for activities that takes place within every society. A norm is a specific guide to action which defines acceptable and appropriate behaviour in particular situations. Norms are enforced by positive and negative sanctions i.e. reward and punishment. Sanctions can be informal like an approving or disapproving glance or formal such as a fine or reward offered by an official body. Usually a threat of such negative sanctions is sufficient to enforce normative behaviour. A value is a belief that something is good and desirable and provides specific directions for conduct. It also defines what is important, worthwhile and worth striving for. Also related to the culture of the society is the social position known as stature. Some are relatively fixed, there is little an individual can do to change his assignment to a particular position e.g. gender. Each status in a society is accompanied by a number of norms known as roles which define how an individual occupying a particular status is expected to behave. Thus, norms, values and roles are culturally determined as a result gender roles are a product of culture (Uzoma, 2004).

2.4.5 Pregnancy Intentions, Use of Maternal Health Services Nexus, Delayed Antenatal Care and Pregnancy Outcome

Maternal health care is important for better maternal, perinatal and infant health outcomes. High maternal and neonatal mortality rates are associated with inadequate and poor-quality maternal health care, including antenatal care, skilled attendance at

birth and postnatal care (Campbell & Graham, 2006). Pregnancy intention, a woman's desire for pregnancy prior to or at the time of conception, is an important concept in reproductive health research and practice. Studies have shown that women with unintended pregnancies have been documented to make inadequate Antenatal Care (ANC) visits and delay in the initiation of the first visit (Rahman et al., 2016). Women who experience unwanted pregnancies have a greater tendency of delaying antenatal care or not using it (Nasreen et al., 2011). Poor utilization of Antenatal Care (ANC) is shown to increase pregnancy related complications (unfavorable pregnancy outcome, maternal morbidity, and mortality) and obstetric complications (premature birth, low birth weight, and neonatal death) (Bellizzi & Padrini, 2020; Shiferaw, 2022).

A study based on 1996–1999 PRAMS data showed that women who responded “don't know” to the pregnancy intention survey question had a slightly increased risk of low birth weight (Mohllajee et al., 2007). Another study also showed that approximately one in six women have ambivalent pregnancy intentions, and those women have increased prevalence of many adverse maternal behaviors and experiences during and after pregnancy compared with women reporting a wanted pregnancy (Santelli et al., 2021). The World Health Organization (2023) defines Reproductive Health as a state of complete physical, mental and social wellbeing and not merely the absence of disease in all matters relating to the reproductive system, functions and processes. This study showcases the nexus between population growth, family planning and maternal health which is very apt because of the growing concern on the exponential increase in population size especially in Sub Saharan Africa with the result being an

increasing pressure on the available resources to cater for this growing population. This is geared towards ensuring intentionality in the reproductive health of women especially with the deliberate use of contraceptives reducing the rate of unplanned and unintended pregnancies which will immensely benefit the Mother, family and the society.

2.4.6 Global Fertility Patterns

Tracing fertility to parameters in which it is susceptible to, is not static all over the globe. This is because even in a particular designated area, the impact of these parameters changes over time. Fertility patterns in the world have changed dramatically over the last few decades (United Nations, 2015b). Global fertility has reached unprecedented low levels, yet stark differences persist in childbearing patterns across countries and regions. The population and development implications of these diverse fertility patterns are directly relevant for the implementation of the 2030 Agenda for Sustainable Development and policymaking and planning in all countries. According to Bongaarts and Hudson. (2022), comparing Nations all over the world, fertility rates in the world's "more developed regions" and "less developed regions" stood in sharp contrast at mid-twentieth century. These two regional categories were created by the United Nation's Population Division in recognition of the distinct population patterns, especially with respect to fertility, evident in countries with substantial levels of industrialization and urbanization compared with those countries that were largely non-industrialized and non-urbanized (Bongaarts & Westoff, 2000). At mid-century the "more developed regions" already had completed

an historic transition from high to low levels of fertility, many having reached replacement levels earlier in the century.

The “less developed regions” had yet to see a decline in their fertility levels. The view of Guillemette and Turner (2018) was centered on the notion that an additional 60 percent of the world’s population of the low fertility population in the developing world finds itself entering into a very similar demographic situation: declining fertility, often well below replacement level, and rapid aging of its population. These trends pose critical population policy challenges which were once limited to the developed world, but have now expanded to encompass over three-quarters of the world’s population. This is a very different demographic environment than that existing in 1950 (Bongaarts & Hudgson, 2022). The United Nation’s (2015) study on “world fertility patterns”, revealed that; the average global world fertility is 2.5 children per woman, Fertility was high in most countries in the world in 1990-1995, Fertility has declined but remains high in sub-Saharan Africa but projected to decline in Africa, Africa remains the region with the highest adolescent birth rate, Nearly half the world lives in below-replacement level fertility countries, by 1990-1995, there were three in Asia and by 2010-2015, half of the top ten lowest fertility countries or areas were in Asia, and most significantly, Countries differ greatly in the age pattern of childbearing. Also, affecting the fertility rate in each region and Nation is the rate of immigration. Desiderio (2020) averred that the potential impact of international migration on fertility huge and more widespread impact extends beyond the households that migrants left behind in their home countries. The positive spill over effect of migration in terms of reduced population pressure extends to migrants’ local

communities and possibly to their societies at large through, among other things, the mass media. By conveying the ideational roots of demographic change through various means, these migrants are effectively agents of the diffusion of demographic modernity (Fargues, 2006).

With the completion of the fertility transition in much of the developing world a new international economic pyramid is emerging, and further significant shifts in countries' economic rankings are likely as the century progresses. In the first decades after 1950 the overwhelming economic dominance of the West lessened the importance in international affairs of relative human numbers. A country in which a large majority of citizens were impoverished had little political clout even if its population was large. Therefore, this explains that there are patterns fertility rates globally (Guillemette & Turner, 2018).

2.4.7 Fertility Patterns in Africa

In Africa, fertility has remained in its highest level with no fertility reduction or only an incipient decline (UNDESAPD, 2014). Studies have revealed that in low-income countries, women have many babies. In low-resource countries, the demographic pattern is characterized by the coexistence of high infant and child mortality (World Bank, 2010). Subsequently, in any region of the world, fertility in sub-Saharan African countries remained at the highest level. Studies indicated that, whenever fertility is high, maternal, infant, and child mortality are high. High fertility poses health risks for mothers and children, causes significantly slower economic growth, and exacerbates environmental degradation (Zabin et al., 2000; Payne et al., 1992). An effect of the high rate of fertility in Africa is that the youth dependency ratio also

increases exponentially. However, it is also discovered that only 29 percent of women in sub-Saharan Africa were using some form of contraception. Due to the minimal utilization of contraceptives in Africa, particularly in Sub-Sahara Africa women are exposed to unintended pregnancy. According to a recent report from the WHO, around 40 percent of pregnancies are unplanned. Mbacké (2017) stated that level of fertility in Africa is projected to fall from 3.1 births per woman in 2010 to 2.1 births in 2050.

A continuous and rapid population growth presents a challenge to achieving sustainable development, particularly in Africa. Although the demographic and health survey is a widely used source of estimates of fertility and mortality in low-income countries, estimates that the total fertility rate and mortality can vary between different data sources. In a comparison study that compared demographic and health survey estimates of fertility with other estimates, the fertility rate computed showed a range of 5–22 percent difference compared to the result from demographic and health surveys (Mokomane, 2013). Tracing the high rate of fertility in Africa is subjected to the patterns of the income and level of awareness of households. To ascertain levels by residence is crucial for a better understanding of contemporary demographic changes in developing countries. Kulu (2011) insisted that the pooled fertility level was significantly higher in rural inhabitants than in urban inhabitants, at 3.90 and 5.82 per woman, respectively. These assertions were also consistent with the research of Daniels et al. (2018) which expounded that because there are known variations in social, economic, demographic, and health characteristics across urban and rural settlements. Another sub-group in which the variation was seen in total fertility was

income. In high-income agricultural societies, parents tend to need relatively fewer children (using modern contraceptives). In contrast, in lower-income societies, women want many children, and adolescents are more likely to experience unwanted and poorly timed pregnancies (Castro & Fajnzylber, 2017).

2.4.8 Fertility Patterns in Nigeria

Nigeria has a high rate of fertility in all regions and this has been recorded since the late 1900's when Nigeria comprised of just four geopolitical zones (Chimere-Dan, 1999). The result of the data retrieved from the Nigeria Fertility Survey (NFS) of 1981/1982 indicated that fertility was quite high in the decade of the 1970s at an average total fertility rate of 6.8. Chimere-Dan (1999) also expressed that analysis of differentials by demographic and other background characteristics, and of determinants, did not show evidence of large shifts in fertility trend towards any specific direction, especially when the quality of the data is considered alongside the estimates. It was suggested that, the influence of reporting errors in the NFS notwithstanding, fertility for all of Nigeria appeared to have remained roughly stable at very high levels in the 1970s.

Estimates of fertility obtained for 1983-86 and 1987-90 from the 1990 NDHS and for periods after 1990 from other surveys particularly the 1999 NDHS suggest that fertility has been declining since after the mid-eighties, at least among some sub-population groups. That fertility declined among all age groups reinforces the assertion by Caldwell (1977) that the African fertility transition will be characterized by fertility declines at all ages, both inside and outside marriage. This is as a result of young adults attempting to avoid pregnancy and marriage and efforts at birth spacing

by older women will continue to be important driving force in the transition. The pace of fertility decline was almost equal in the urban than in the rural areas. Among the regions, the decline was most rapid in the south-west and lowest in the Northwest and Northeast. Several factors have contributed to sustain relatively high levels of fertility in Nigeria. These factors include high level of infant and child mortality, early and universal marriage, early child bearing as well as child bearing within much of the reproductive life span, low use of contraception and high social values placed on child bearing (Feyisetan & Bankole, 2002). The research named factors like fertility desires, marriage, and postpartum variables, among others to be key in the fertility patterns in Nigeria.

Feyisetan and Bankole (2002) described that fertility norms, usually reflected by the demand for children, are most often measured by the number of children desired under prevailing social and economic conditions. In terms of marriage, the proportion married as well as increases in age at marriage have been identified as one of the factors responsible for fertility decline in some North African countries (National Research Council, 1982; Fargues, 1989). For postpartum variables, unavoidable circumstances like breastfeeding, postpartum amenorrhea and postpartum abstinence, in place are usually a declining factor to fertility in Nigeria. In the case of abortion, an increase in abortion rate has usually been accompanied by a decline in fertility especially in high to medium fertility populations. Other factors like female education and employment are also explicable to the patterns of fertility in Nigeria (Feyisetan & Bankole, 2002).

2.4.9 Fertility Patterns in Edo South

A prevalent cause of the high rate of fertility in Benin City and environs, is the desire by families. Fertility level in Nigeria generally remains high and this seems to be triggered by the preference for large family size as well as the desire for a specific sex which further increases the fertility intentions among families (Ukponahiusi, 2021). Fertility preferences indicate the extent of intended control over reproductive outcomes, and are therefore vital components in the analysis of individual. The findings of this research revealed that majority of the spouse (especially the ones who are not well educated) prefer to have large families as long as they are able to get the desired sex of a child irrespective of the number of children birthed in the process. In addition, couples in Benin City without male child were more willing to have more children as long as the women keep getting pregnant. This however will be harbinger to the achievement of the Nigerian National population policy of reducing fertility rate.

Studies in Africa, including southern part of Nigeria have shown that, most couples desire to have more children as a source of honour, wealth and prestige (Thompson, 2001). Most importantly is the preference of male child which seems to have significant impact on family size. However, some of the participants believe that the era where male is given preference is waning due to modernisation and globalisation. Religion and education over time encourage a monogamous system of marriage and reduce the excessive quest for a male child that once existed in the African society. This implies that the desire for specific sex can only be reduced by education.

In Benin City, fertility is patterned to have a striking level of unintended ones and its rampage have spurred further checks which have brought to the limelight that fertility in Benin City is patterned by the household income, educational qualification of both spouses, among others. Hence, education, exposure, awareness and income of the family are factors that affect fertility patterns in Benin City. The investigation of Ukponahiusi (2021) further recommended that to regulate the rate of fertility in Benin City, decisions as regards child birth should be a joint agreement reached by couples without one overpowering the other, to help checkmate pressure from a partner on issues relating to child birth and fertility choice. Social security for the aged should as well be of priority for government to correct the notion of having many children for the purpose of social security at old age. Also, couples should be encouraged to visit and utilise the services of healthcare service providers so as to be enlightened on the various family planning choices that will meet their economic status.

The desire for a larger family size is very pronounced among the uneducated people because of lack of moral check on quantity as against quality. The level of education is held to be directly associated with fertility rate, thus, it is a vital key that influences the choice of children a woman/ couple will have however, not in all cases as they are some rich couples that still prefer to have large family size. This implies that the desire for specific sex can only be reduced by education. Studies conducted in Nigeria and Ethiopia show that women with higher level of education have reduced fertility compared to women with least or no education and they are not particular about the sex of the child as long as it is a child. For example, Alene & Worku (2008) found a link between education and reduced fertility among women. This is also in

corroboration with Akpa and Ikpotokin (2012) that opined that women with low level of education were more likely to have more children than women who had tertiary education. They further opined that when only the socio-demographic characteristics are put into consideration, women with no formal education and those with only primary school education show almost fifty percent increase in the level of fertility compared with women who had tertiary education. The culture of the people is a strong force that still keeps the people behind.

2.4.10 Family Planning, Income and Desired Family Size

Family planning has become a common birth control strategy due to its high level of adoption. This is a very effective method and it is widely acceptable, as it does not only proffer solution to people who do not want to indulge in childbearing, but also helps those that are unwilling to bear children at a point in time. It has also been reported to be an effective tool in enabling child-spacing, as well as putting a halt to child bearing when no more child is needed. So many implanted ways have been used in adopting this strategy and though it is not without flaws, the effectiveness of this strategy can be said to have curbed unintended fertility in certain areas. In adopting this method efficiently and with sheer intentionality, couples are able to have children when they want to, with other factors involved in conception and fertility in place. According to Warren (1987), who wrote on the most important determinants of fertility in Puerto Rico and arrived at the conclusion that contraceptive use especially female sterilisation has the strongest effect on fertility and the prevalence of contraceptive use is high in the educated groups. Breast feeding was found to have little influence on fertility. Harrison (1982) argued that the point of lack of access to

family planning clinics cannot be used as an excuse for having large families since every culture has its family planning methods.

The practice of having an exact number or a range of the number of children intended even before the conception of the first, is not uncommon in most marriages. This is usually an agreement reached by both spouses; however, it is sometimes of conflicting interest. Though it almost a common place that the desire for many children has dropped but in some part of the world, situations where couples are hell-bent of producing five children or more are not so far-fetched, regardless of the income of the family. However, studies have discovered that it is actually low-income families that desire more children so the standard of living can no way be seen as directly proportional to the desired family size, rather when other factors are checked, it could even be inversely proportional. Thus, it is not a new discovery that family planning and desired family size has so much to do with the rate of pregnancy. When everything needed is put in place such as proper planning and early agreement on the desired family size, the incidence of unintended pregnancy will be drastically reduced.

Family income has been found to play a role on deciding on the family size. Large families can be found to be a hindrance in achieving socially desired goals because of the restrictions children place on their parents hence affecting the opportunities to work and be involved in other extra-marital activities. This view was confirmed by Mostert and Lotter (1990) who stated that the economic value of the children has declined and have become an economic liability. They do not only become dependant much longer but parents need large amounts of money to educate, clothe and feed

them. This has led to an emergence of a two child family norm in developing countries.

Karki (1988) stated that the economic value of the children is changing even in rural areas of Nepal. Also the reasons for wanting sons and daughters support the suggestion that the economic motive of having children may be weakening. Many villagers link poverty to large family size. The land has also become so expensive that its purchase has become practically impossible. Those families that had land have become moderately well off because as generations grow, inheritance customs continually divide large estates between sons. Pillai (1984) conducted a study among women in India. He came to the conclusion that the family income also plays a role in deciding on family size.

2.4.11 Family Size Determination

A woman's family size is the number of children she has at the end of her child-bearing years (Habiger, 2007). This is also known as her total fertility. The number of children a woman actually does have could be different from the desired number that she would like to have, but for predictive information, this desired number could give an information on the actual number she might finally have.. African women averagely have the desire to have a large family size to show how potent or fruitful they are; with this, Nigerian women averagely are no exception to this (NPC, 2000). An average Nigerian woman has total fertility of 5.7 according to the demographic data in the UNICEF state of the world's children (UNICEF, 2006). This means that, the number of children that would be born per woman if she were to live to the end of her child bearing years and bears children at each age in accordance with prevailing

age specific fertility is 5.7. However this figure is only an average. The total fertility rate for Nigerian women with no education is about 6.4 and that for women with post-secondary school education is 2.1. This shows that highly educated women have smaller family size than uneducated ones (UNICEF, 2006). The socio-economic status has a role to play. It is assumed that decision makers carefully weigh costs and benefits of making choices to satisfy personally defined objectives (Rasul, 2008), therefore changes in the socio-economic status could lead to women revising their fertility preferences over time (Fapohunda & Poukouta, 1997).

Based on the above, Easterlin theory postulates that demand for children is affected by 3 factors; price, income and tastes. For price, this includes direct expenditure and opportunity cost of bearing and raising children. The relationship is thus, the higher the price the lower the demand. Also an increase in income leads to an increase in children demand. Taste; the greater the taste for children is, the higher the demand (Caldwell & Caldwell 1987). In Africa, there exists a low level of economic empowerment for women, which is supposed to lead to a decrease in family size, but this does not occur, as families (women) use their children as hope for a better future, thus, these children become somewhat an investment for these families. Nigerian women have also followed in this pattern, since women of low socio-economic status have a high fertility rate so as to protect their future, by such, these children act as a source of wealth to their families especially when the parents are old. Religion is another factor that has affected desired family size among women. Women who are Christians have a lower desired family size than those who are traditional African religion adherents because of its attachment to cultural practices (Ejezie, 2003). For

Muslims, the family size may tend to be on the high side but this does not mean that all the children are from a single woman since polygamy is allowed in this religion (Fapohunda & Poukouta, 1997).

2.4.12 Actualization of the Agenda – Goal 3, Target 7 of the United Nations Sustainable Development Goals in Nigeria

Sustainable Development Goal (SDG) 3, Target 7 aims to ensure universal access to sexual and reproductive health-care services, including family planning, information, and education, and the integration of reproductive health into National strategies and Programs by 2030 (World Health Organization, 2023). The Federal Government of Nigeria (FGN) has implemented programs aligned with the SDGs through its Family Planning (FP) Blueprint (2020–2024), aiming to provide every woman with access to quality, rights-based family planning services (FP2030, 2020). Nigeria has demonstrated commitment to achieving SDG 3 Target 7 by integrating sexual and reproductive health (SRH) into its National health strategies but despite these efforts, Nigeria faces significant challenges in actualizing SDG 3 Target 7. According to the World Health Organization, less than half of the need for modern family planning services is met in Nigeria, indicating a substantial gap in service provision (WHO, 2023). A study by Adelekan et al. (2020) identified several barriers to family planning uptake in Nigeria, including limited education, desire for more children, partner disapproval, religious and cultural beliefs, and logistical issues like cost and difficulty accessing services. These factors contribute to the low contraceptive prevalence rate and high unmet need for family planning services.

Furthermore, the adolescent birth rate remains high, and access to reproductive health services for adolescents is limited due to provider bias, lack of social support, financial constraints, and cultural and religious norms (Okonofua et al., 2022). To address these challenges, Nigeria has set an ambitious target to achieve a 27 percent modern contraceptive prevalence rate (MCPR) by 2030, aligning with its family's planning 2030 commitments (FP2030, 2023). The Government is also focusing on integrating reproductive health into national strategies and programs, as emphasized in SDG 3 Target 7 (WHO, 2023). Additionally, inclusive projects like the Inclusive Family Planning (IFPLAN) initiative aims to increase access to modern contraceptive methods and reduce unmet need for family planning among women with disabilities in Kaduna city, Nigeria (Sightsavers, 2023). In view of the above, stringent measures are required to be put in place to ensure at least a 70 percent actualization of this Goal in line with the objectives of the United Nations.

2.5 Summary of Literature Reviewed

In tandem with the 2015 United Nations Sustainable Development Goals (SDGs) 3.7 and 3.8 which states that by the year 2030 it is to ensure 75 percent universal access to sexual and reproductive health-care services and also to achieve universal health coverage to all. The above goal which is to totally eradicate the supply and demand barriers to family planning utilization in order to increase contraceptive use particularly among sexually active women of reproductive ages fifteen to forty nine, this study comes very apt to ensure intentionality in the reproductive health of women which can be said to be an indicator of the overall health and well-being of a woman.

Globally, women are having fewer babies, but fertility rates still remain high in some parts of the world (United Nations, 2022). The global fertility rate declined from 3.2 live births per woman in 1990 to 2.5 in 2019 and 2.42 in 2023. In sub-Saharan Africa, the region with the highest fertility levels, total fertility fell from 6.3 births per woman in 1990 to 4.6 in 2019 and 4.45 in 2023 according to the United Nations (2023). Nigeria, which is perceived to be the most populous country in Africa, the Total Fertility rates dropped from 5.14 in 2022 to 5.076 in 2023. Despite this drop in figure, fertility is still high especially when compared to the developed countries of the world and a number of factors can be attributed to this growing figure. Despite remarkable improvement in access as well as utilisation of diverse birth control measures (Haakenstad et al., 2022), studies still confirm steady increase in annual occurrence of unwanted pregnancy particularly in developing countries. Bearak et al., (2018) reported that from 1990-2014, the worldwide rate of unwanted pregnancy stood at 99million with countries in the developing regions accounting up to about 89 percent. The figure rose to about 121million with 64 per 1000 population of women of reproductive age (15 - 49years) from 2015 to 2019 globally, again with developing countries recording higher than global rate (Bearak et al., 2020).The United Nations (2020) reports that between the year 2000 and 2020, the contraceptive prevalence rate (percentage of women aged 15-49 who use any contraceptive method) increased from 47.7 to 49.0 per cent. Whereas contraceptive use is currently lowest in sub-Saharan Africa, at 27.8 per cent, this level is projected to increase over the next decade to 32.9 per cent. Most women who use contraception rely on modern methods, but the specific contraceptive methods used vary by region. The United Nations (2022), affirms that

Adolescents continue to be a vulnerable group, particularly in sub-Saharan Africa, where 1 in 10 women aged 15 to 19 years gave birth in 2020 and one in five aged 15-19 years were married or in a union. Adolescents, in particular, have a substantial unmet need for sexual and reproductive health care. It is reported that the number of females aged 15-19 years with an unmet need for family planning has decreased or remained constant in most regions of the world since 2000, it has increased by more than half in sub-Saharan Africa over the same period. Between 2020 and 2030, the number of young women with an unmet need for family planning is projected to decrease or remain constant in all regions except sub-Saharan Africa. The proportion of women of reproductive age who have their need for family planning satisfied by modern contraceptive methods (SDG indicator 3.7.1) has increased gradually in recent decades, rising from 73.6 per cent in 2000 to 76.8 per cent in 2020 (United Nations, 2020). However, this change has been uneven, as many women who want to avoid pregnancy continue not to use a modern method of contraception. Universal access to sexual and reproductive health-care services, including for family planning, information and education as called for in the 2030 Agenda, will enable more women with a need for family planning to make an informed choice about a method of contraception that is acceptable and appropriate in their circumstances.

Notwithstanding the consequences which could include poor maternal health, low birth weight, abortion and many others, drawbacks as well as the causalities, the predisposing conditions (marital status, age, income) and sensitivities surrounding the moment women notice that they are pregnant are also vital in understanding the dynamics of unintended and unplanned pregnancies. This has led to the development

of frameworks towards effective assessment of the reproductive and public health indicator with the view to supporting policies. Prominent among others is the deployment of the London measure of unplanned pregnancy (LMUP) in reproductive health debates (Barrett et al., 2004; Hall et al., 2017; Barrett et al., 2020). Also innovative is the deployment of geographic information systems (GIS) in correlates and hotspot mapping of unintended/ unplanned pregnancies. While Tareke et al., (2022) GIS-based analysis of unintended pregnancy revealed significant clusters of locations with unmet needs (Moran's Index of 0.38, $p < 0.001$) as key correlates of unintended pregnancies among women 15-49 years in Ethiopia. Jiang et al., (2023) study was able to spot most vulnerable neighborhoods to unintended pregnancy for adequate policy focus in Connecticut, USA. Zeru et al., (2023) also deployed GIS to map the spatial patterns of unintended pregnancy among women aged 15-49 years in Ethiopia and found peak prevalence clustering around the North Gondar district of the Amhara territory and the Jima neighborhood in the Oromiya region. Age, residence, marital status, women education, cigarettes smoking and poverty emerged as significant spatial predictors of unintended pregnancy in those hotspot areas.

In Nigeria, despite paucity in country-level statistics, the 2018 Demographic and Health Surveys (DHS) showed an estimated 36 percent stoppage of modern family planning measures by women in marital relationships resulting to about 46 percent probability of exposure to unwanted pregnancies (Kupoluyi et al., 2023). In Edo State, adolescence and women of reproductive age with low and improper contraceptive usage, particularly among students, victims of rape and illegal migrations stand at higher risk of unwanted pregnancies (Ehiaghe & Barrow, 2022;

Obarisiagbon, 2023; Adeyemi et al., 2023). However, a variety of demographic, socio-economic, cultural and spatial causalities of unintended and unplanned pregnancies have been documented. Alene et al., (2020) linked poor knowledge and use of modern contraceptives, communication gap among spouse, age, and marital status, and parity, literacy levels as significant determinants of unintended and unplanned pregnancies in Ethiopia. Guspaneza and Martha (2019) reported livelihood engagement, household income, family types, household size, ethnicity, religion and settlement locations as key factors responsible for upsurge in unintended/unplanned pregnancies. Abdullahi et al., (2023) established poverty, youthful exuberance and influence, unsafe sex, exposure to internet, poor parental care/support along with promiscuity as significant correlates to unintended/unplanned pregnancies with severe consequences on educational achievement. Low contraceptive uptake and unmet need for family planning in Nigeria, as well as women's lack of empowerment to make fertility decisions, compromise reproductive rights and their ability to determine freely the number and timing of their children, and their access to good quality information and services, free from discrimination or coercion (Hardee et al., 2013). Previous literature shed more light on the nature, causes and factors that influence fertility rate globally and specifically in Nigeria. Studying the fertility impact of the proximate determinants of fertility which includes the biological and behavioral determinants further described the ripple effect it has on unplanned pregnancies. This study adopts a holistic approach by carrying out a comprehensive approach to the prevalence and determinants of unintended pregnancies in Edo South, Nigeria. The literature reviewed has shown that despite the palpable reduction in fertility rates

globally, Africa and precisely Nigeria is still experiencing increase in fertility rates and research has shown that some of these pregnancies are unplanned, mistimed and unintentional. The implication of this if not checked will be the inability of the country to meet the United Nations 2030 Sustainable Development Goal 3 Target 7 and 3 Target 8 specifically.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The key strategies adopted in carrying out this study are thematically examined in this chapter. They include research design, sampling technique, population of the study, type and sources of data. Also included are the instruments used and techniques of analysis adopted, the instrument used in gathering data, and mode of administration as well as the analytical procedures deployed in analyzing the data.

3.2 Research Design

In order to meticulously conduct inquiry into unintended pregnancies and interconnected implications in Edo South Senatorial District, a mixed method research design was employed. Mixed method research is commonly defined as the systematic integration of quantitative and qualitative approaches within a single study to gain a more complete understanding of research problems (Creswell & Plano Clark, 2018). The study employed an Explanatory Sequential Design, a mixed-methods approach in which the quantitative component is implemented first and drives the research process, while the qualitative component follows to provide deeper insight into the quantitative findings. In this design, the quantitative data identified statistical patterns in unintended pregnancy and family planning utilization across communities, while the qualitative interviews with healthcare facilitators were used to explain and contextualize these patterns. This design was considered most suitable because family planning and reproductive health are complex issues that cannot be fully understood through numbers alone. While quantitative analysis quantified the scale and

distribution of unintended pregnancy, the qualitative phase provided explanations for these outcomes by capturing the lived experiences, perceptions, and barriers narrated by healthcare facilitators. This complementarity enabled one type of data to enrich, elaborate, and clarify the findings of the other, ensuring a more comprehensive understanding of the research problem (Maxwell, 2016; Morgan, 2014).

The rationale for utilizing this research design was to facilitate a blend of households-based survey from different spatial strata as well as public and private health facilities offering reproductive healthcare services in Edo South. The households-based assessments of the subject would transect urban and rural spatial strata while the health facilities-based survey would cut across primary, secondary and tertiary reproductive healthcare service providers. Purposive sampling was employed in the selection of health facilities and key informants, particularly healthcare facilitators, to ensure the inclusion of respondents with relevant knowledge, experience, and direct involvement in family planning and reproductive health service delivery. Structured questionnaire and Key Informant Interviews (KII) constitute the major investigative tools that aided the realization of the research objectives. The researcher also deployed a mix of descriptive and inferential statistical techniques in addition to spatial statistics as key analytical and presentation tools.

3.3 Dataset and Sources

The main dataset needed for this study are those that are specifically tailored to realize the research objectives. They comprised of primary and secondary data. Primary data was collected from respondents in the field using structured questionnaire and oral interviews with strict emphasis on the Multidimensional Implications of the

prevalence and determinants of unintended pregnancy on the SDGs in Edo South. On the contrary, secondary data was collected specifically from published materials and unpublished documents such as hospital records of women/ couples patronage of reproductive health care facilities, sexual and pregnancy related issues, inventories of government, organizations, and individual supports for family and reproductive health services.

3.4 Description of Instruments for Data Collection

Interview guide was used to interview health workers in the various arms of healthcare facility while copies of questionnaire were administered to women who were in their houses and those in the hospitals visited. This was done across the seven Local Government Areas of Edo South (see Appendix 1 for the questionnaire and Appendix 2 for the interview guide). The questionnaire contained seven sections of both structured and open-ended questions.

The structured questions were designed in different formats including multiple-choice questions with a five point, six point, and nine point rating scales. Section A contained questions on the demographic and socio-economic characteristics of the respondents. Section B focused on identifying the causes of unintended (unwanted, mistimed and unplanned) pregnancies in the research. Section C analysed the prevalence of unintended pregnancies among different socio-economic and demographic groups of sexually active women in the study area.

Section D ascertained the perception of sexually active women of reproductive age on the use of family planning methods in the study area. Furthermore, Section E determined if and how sexually active women utilize and meet their sexual and

reproductive health-care needs within the study area in line with SDG 3, Target 7 and section F evaluated the unmet needs and constraints faced by women of reproductive age in accessing and utilization of reproductive health services with regards to SDG 3 Target 7 and 8. Finally, Section G sets to include unintended pregnancies as key component of the data ecosystem required for the implantation of SDG 3, Target 7 in the study area. Figure 3.2 shows a modified framework for analysing pregnancy flow among women of reproductive ages (Adetunji, 1998)

3.5 Population of Study

The population of this study focused on all women of reproductive ages of between 15 – 49 years old in Edo South. It encompassed women who had given birth to at least one child in their lifetime or were currently pregnant. Based on the National Population Commission (2014), the number of women of reproductive age (15 - 49 years) in the seven Local Government Areas that make up the study area in 2006 was 451,710. Deploying the arithmetic population projection of Edo State annual growth rate of 0.027, the total population of women reproductive age as at the end of 2023 is projected to 710,488 for the seven LGAs in Edo South. See Equation 3.1 for the population projection formula that was applied.

$$P_t = P_o e^{k\Delta t} \dots\dots\dots \text{Equation 3.1}$$

Where P_t is the projected population

P_o is the current population;

e is a constant of 2.71828;

k is the rate of population growth divided by 100 ($\frac{2.78}{100}$)

Δt is the difference in time (2023 – 2006 =17)

3.6 Sample Size Determination and Sampling Techniques

In order to derive the accurate sample size for this study, the projected total population of 710,488 was fitted into the Maple Tech International LLC (2023) operated online sample size calculator. According to Nkeki and Osirike (2013) and Nkeki and Asikhia (2019), the tool maintains a high level of accuracy with a precision of 99 percent confidence, in addition to error margin of 0.03 that is specified in the calculator.

From the estimated sample size presented in Figure 3.1, a total of 83.5 percent was specified to depict the actual estimated percentage of the population of women 15 – 49 years old that may likely get pregnant in a year (2024). This value was derived by deducting 16.5 percent annual infertility rate among women 15 – 49 years in developing countries (including Nigeria) as reported by WHO (2023) from 100 percent. The final output produced a proposed sample size of 1006, as seen in the exported screenshot (Figure 3.1). From the 1006 proposed, 44 percent of the respondents (pregnant women) representing 444 were selected from health facilities, while the remaining 56 percent are women (age 15 – 49 years) without pregnancy but have given birth at any point of their reproductive life account for 562 from households. Women of reproductive age from households have a higher proportion because more respondents will be gotten from their households than in the hospitals.

According to the Federal Ministry of Health (2023), there are 404 registered and fully operational public and privately-owned Health facilities in the seven local government areas (LGAs) that constitute Edo South Senatorial District (Table 3.1). Simple random sampling technique (SRST) was utilized to select 15 public and privately-operated health facilities offering reproductive care services (HFORCS) with selected numbers

from each LGA as seen in Table 3.1. In terms of ownership, a total of 13 is owned and operated by government (public) while 8 are private HFORCS.

Result

Sample size: 1006

This means 1018 c1006e measurements/surveys are needed to have a confidence level of 99% that the real value is within $\pm 3\%$ of the measured/surveyed value.

Confidence Level: 99%

Margin of Error: 3 %

Population Proportion: 83.5 % Use 50% if not sure

Population Size: 710488 Leave blank if unlimited population size.

Calculate

Figure 3. 1: Onscreen Capture of the result of Online Sample Size Calculator
Source: Maple Tech International LLC (2023)

On the basis of categories of health facilities offering reproductive care services (HFORCS), 10 offer primary healthcare services, 8 render primary and secondary healthcare services, while 3 are tertiary healthcare providers which deliver primary and secondary care services (see Table 3.2). Based on John-Abebe (2021; 2022), proportionality factor was deployed in disaggregating the 444 into the 15 health facilities offering reproductive care services (HFORCS) according to total number of HFORCS in each LGA in the study area.

Table 3.1 shows the sampled health facilities/communities in Edo South Senatorial District.

Table 3. 1: Sampled Health Facilities/ Communities in Edo South Senatorial District

| LGA | Ward | Health Facility | Category | Ownership | Total |
|--------------|-----------------|-------------------------------------------|-----------------|------------------|--------------|
| Egor | Ugbowo | University of Benin Teaching Hospital | Tertiary | Public | 3 |
| | Useh | Ukpera Primary Health centre | Primary | Public | |
| | Uselu | Mount Gilead Hospital, Uselu | Secondary | Private | |
| Ikpoba-Okha | Aduwawa | Guobadia Hospital Evbomodu | Secondary | Private | 1 |
| | Ward 2 | Central Hospital | Tertiary | Public | |
| Oredo | Ward 2 | Stella Obasanjo Women & Children Hospital | Secondary | Public | 3 |
| | Ward 2 | Faith Mediplex | Secondary | Private | |
| | Okada West | Igbinedion University Teaching Hospital | Tertiary | Private | |
| Ovia East | North Isiuwa | Nifor Maternal and Child Health Center | Secondary | Private | 3 |
| | West Iguobazuwa | Lydia Maternity Home | Primary | Private | |
| | Udo | Udo Comprehensive Health Centre | Primary | Public | |
| Orhionmwon | Abiokunla 1 | Abudu Primary Health Centre | Primary | Public | 2 |
| | Ukpato | Okogbo Primary Health Centre | Primary | Public | |
| | Umagbae | Egba District Hospital | Secondary | Public | |
| Uhumnwonde | South | | | | 3 |
| | Ohuan | Obadan Primary Health Centre | Primary | Public | |
| Total | | | | | 15 |

Source: Extracted from Nigeria Health Facility Registry by Federal Ministry of Health (2023)

3.7 Distribution of Reproductive Health Facility Registry in Edo South

At the health facilities offering reproductive care services (HFORCS) level, pregnant women registered for antenatal care were randomly selected for the survey at the ratio of 3:2:1 representing 50 percent from tertiary Health facilities (HF) which amounted to three (3), 33 percent from secondary Health facilities (HF) totalling seven (5) and 17 percent from primary Health facilities (HF) which was ten (7). This sampling was carried out such that both Public and Private HFORCS are well represented. Similarly, the selection of the other 444 women of reproductive age (15-49 years) was done by first stratifying the study area into seven strata and the local government areas were used as the bases for stratification. Secondly, using a sample frame (see Appendix 3) that has a comprehensive list of communities in Edo South, simple random sampling technique (lucky dip) was applied in selecting the communities that formed part of the study. This was done by writing the serial numbers of the communities in a carefully folded paper and placed in a container. A paper was randomly picked without been returned into the container. Lastly, systematic sampling was used to select the houses in which there is a woman of reproductive age. This was done by picking a random street and in that street, the first house was selected to be part of the survey and subsequently, every fourth house on the street was selected as part of the study. This was done until the assigned copies of questionnaire to the community was exhausted. It should be noted that this sample size of 562 is considerably higher than the 352 obtained from sample size formula with standard deviation of 1.96 percent and error margin of 0.5 by Ogboghodo et al. (2022). Martínez-Mesa et al. (2014) also recommended sample size range of 370-381 with the z-score of 1 and 0.5 error margin

from the population ranging between 10,000 - 40,000 for prevalence-based health-related studies.

Table 3.2 shows sample size for distribution of questionnaires to the tertiary, secondary and primary health facilities.

Table 3. 2: Sample Size for distribution of Questionnaire according to number of Tertiary, Secondary and Primary Health Facilities

| Category | | Name of Health Care Provider | Ward | LGA | Copies of questionnaire |
|----------------------|--------|-------------------------------------------|-----------------|-----------------|-------------------------|
| Tertiary Facilities | Health | University of Benin Teaching Hospital | Ugbowo | Egor | 117 |
| | | Central Hospital | Ward 2 | Oredo | 81 |
| | | Igbinedion University Teaching Hospital | Okada West | Ovia North East | 35 |
| Secondary Facilities | Health | Mount Gilead Hospital | Uselu | Egor | 28 |
| | | Stella Obasanjo Women & Children Hospital | Ward 2 | Oredo | 48 |
| | | Guobadia Hospital | Aduwawa | Ikpoba Okha | 25 |
| | | Evbomodu Faith Mediplex | Ward 2 | Oredo | 25 |
| | | Nifor Maternal and Child Health Center | Isuiwa | Ovia North East | 10 |
| | | Egba District Hospital | Umagbae | Orhionmwon | 05 |
| Primary Facilities | Health | Ukpera Primary Health centre | Useh | Egor | 10 |
| | | Lydia Maternity Home | Iguobazuwa West | Ovia South West | 11 |
| | | Udo Comprehensive Health Centre | Udo | Ovia South West | 10 |
| | | Abudu Primary Health Centre | Abiokunla 1 | Ovia South West | 10 |
| | | Okogbo Primary Health Centre | Ukpato | Orhionmwon | 14 |
| | | Obadan Primary Health Centre | Ohuan | Uhumnwonde | 15 |
| | | Total | | 15 | |

Source: Field Work (2024)

Due to the unobtainability of current, reliable and published data on the number of households at the community level, the number of households in each LGA was divided equally into the two communities. The selection of the resultant households at each sampled community was executed with the aid of systematic sampling as seen in the works of Ikelegbe and Edokpa (2013) as well as Agheyisi and Aghedo (2021). Thus, in each community, every third dwelling in each street/road was sampled and regardless of the number of household in each dwelling, one was selected for interview until the required sample size is achieved. Table 3.3 shows the sample size according to the number of health facilities and households.

Table 3. 3: Sample Size According to Number of Health Facilities and Households

| LGA | No of Health Facilities | Number of Households* | Sample Size from Health Facilities | Sample Size from Households |
|-----------------|-------------------------|-----------------------|------------------------------------|-----------------------------|
| Egor | 52 | 121576 | 155 | 111 |
| Ikpoba-Okha | 90 | 129993 | 25 | 143 |
| Oredo | 96 | 139484 | 154 | 126 |
| Ovia North East | 32 | 50683 | 45 | 41 |
| Ovia South West | 49 | 47957 | 31 | 41 |
| Orhionmwon | 42 | 59561 | 19 | 45 |
| Uhumnwonde | 43 | 40321 | 15 | 55 |
| Total | 404 | 589,575 | 444 | 562 |

***projected to 2023**

Culled from National Population Commission (2010) and Federal Ministry of Health (2023)

3.8 Research Instrument Design and Administration

Questionnaire was the principal instrument that was used in the collection of data for this study. The questionnaire was carefully structured such that it was capable of using to achieving the research objectives. As seen in Appendix I, seven sections in the research instrument were proposed and the questions are credited to the works of Barrett et al. (2004) and have experienced widespread applicability as seen in recent

studies by Hall et al. (2023) in UK, Callegari et al. (2023) in USA, Karp et al. (2022) and Olani et al. (2022) in Ethiopia among others. Section (D) was to ascertain the perception of sexually active women of reproductive age on the use of family planning methods in the study area. Section (E) determined if and how sexually active women would utilize and meet their sexual and reproductive health-care needs within the study area in line with SDG 3, Target 7. These were sourced from empirical studies conducted by Khan and Islam (2022), Islam et al. (2023) and Ticono et al. (2023) to mention a few. Section (F) cused on how to evaluate the unmet needs and constraints faced by women of reproductive age in accessing and utilization of reproductive health services with regards to SDG 3 Target 7. Section G included unintended pregnancies as a key component of the data ecosystem required for the implantation of SDG 3, Target 7 in the study area.

Copies of the questionnaire were administered to respondents after informed consent at the proposed health facilities and households by the researcher and trained research assistants has been obtained. This was preceded by validation by Ethics and Research Committee, University of Benin Teaching Hospital and pilot survey. Efforts was made to read and interpret the questions to the respondents for clearer understanding before answering. Respondents unable to read and/or write were assisted by the researcher and team of the research assistants. Steps were also made on immediate questionnaire retrieval from the respondents to forestall misplacement. The retrieved copies of questionnaire were coded in SPSS 22 Version for analyses. Table 3.4 shows the schedule for questionnaire administration in Edo South.

Table 3. 4: Schedule for Questionnaire administration in Edo South

| Local Government Area | Selected Community | No. of Questionnaires |
|------------------------------|---------------------------|------------------------------|
| Egor | Ugbowo | 62 |
| | Useh | 21 |
| | Urelu | 28 |
| Ikpoba-Okha | Obayantor | 21 |
| | Oghoghobi | 18 |
| | Ologbo | 14 |
| | Idogbo | 16 |
| | Oka | 17 |
| | Aduwawa | 41 |
| | Obaretin | 16 |
| Oredo | New Benin | 41 |
| | Oghede | 35 |
| | Ikpokpan | 50 |
| Ovia North East | Okada | 24 |
| | Isiuwa | 11 |
| | Uhiere | 6 |
| Ovia South West | Iguobazuwa | 24 |
| | Udo | 10 |
| | Urezen | 7 |
| Orhionmwon | Abudu | 24 |
| | Ukpato | 10 |
| | Obagie | 11 |
| Uhumnwonde | Eyaen | 39 |
| | Igieduma | 5 |
| | Ehor | 11 |
| Grand Total | | 562 |

Source: Author's Computation (2024)

3.9 Methods of Data Analysis

Data analysis is the systematic process of applying statistical, logical or interpretive techniques to describe, summarize, transform and evaluate data with the aim of discovering useful information, drawing conclusions and supporting decision making (Patel & Patel, 2019). It is broadly divided into quantitative, qualitative and mixed-methods analysis. Quantitative analysis focuses on numerical data and employ the use of descriptive and inferential statistics (e.g ANOVA) whereas Qualitative analysis

focuses on non-numerical data and deploy the use of thematic, discourse, and narrative analysis (Braun & Clarke, 2006; Creswell & Creswell, 2018). Mixed-method analysis combines both quantitative and qualitative techniques to provide a more comprehensive analysis of the data given.

3.9.1 Descriptive Statistics

The demographic and socio-economic characteristics of respondents and fertility patterns, knowledge, attitude and perception (KAP) of women on the use of family planning methods were analysed using descriptive statistical approaches. Charts and tables were also used in data presentation for easy visualization.

3.9.2 Likert's Weighted Mean Score Analysis

In order to understand the variations in the social, demographic and economic backgrounds of sexually active women in the study area as well as the constraints to effective access/ utilization of improved sexual and reproductive health services, Likert weighted mean score analysis was used. Likert scale is a statistical framework for summarizing four or more Likert items that inquire about the same subject such as attitude, perception and statements about something. This summation is a numerical indication of over positive or negative orientation towards that subject. This study used a five – points Likert framework as seen in the works of Abdullahi et al (2023), Bakhtari-Aghdam et al (2023), Klann and Wong (2023) as well as Moon and Kim (2023). The Linkert scale was further analysed by Relative Importance Index (RII) to rank the relative importance of the perceived factors.

$$RII = \sum W / (A * N)$$

Where W = Sum of the weights given by the respondents

A = Highest possible weight

N = Total number of the respondents

3.9.3 Analysis of Variance

This research made use of analysis of variance (ANOVA) in testing the third research hypothesis. This hypothesis, in a null form states that “There is no significant variation in the mean occurrence of unintended pregnancies amongst communities in Edo South”

ANOVA is an inferential statistical approach which offers cluster-level statistics for the dependent observation, a test of equality in terms of variability, sectorial plots of group means, range tests, pairwise multiple comparisons, and dissimilarity, for effective description of the pattern of dissimilarity in different sectors (Wooditch et al., 2021). Typically, the formula in Equation (2) calculates and evaluates the null hypothesis in ANOVA:

$$H: \mu_1 = \mu_2 = \mu_3 = \dots = \mu_k \dots\dots\dots (2)$$

For Access, μ = group mean (mean travel distance from place of residence to health facility) and k = number of groups (Age groups).

For utilization, μ = group mean (mean frequency of antenatal visit during pregnancy) and k = number of groups (Age groups).

If, however, ANOVA returns a statistically significant result, the researcher will allow the alternative hypothesis (HA), which is that there are at least two group means that are statistically significantly different from each other. The seven LGAs in Edo South constituted the predictor variables while the responses on the set of conditions and

sensitivities surrounding the moment of noticing pregnancy among women formed the dependent variable.

3.9.4 Mann-Whitney U Test

The Mann-Whitney U Test, also known as the Wilcoxon Rank Sum Test, is a non-parametric statistical test used to compare two independent samples or groups which do not follow a normal distribution. The difference between the two groups are determined by the rank sums of each of the group rather than the means as in the t-test. Mann-Whitney U Test evaluates whether one group or sample tends to have higher or lower values than the other and is widely used in various fields including healthcare and business research. The test is particularly useful when the sample sizes are limited or the assumptions of parametric tests (normal distribution, equal variance) are not met.

Formular

$$U_1 = n_1n_2 + \frac{n_1(n_1+1)}{2} - R_1$$

Where

n_1 = Age of respondents/ age of entry into marriage/ age at first birth amongst women in Households

n_2 = Age of respondents/ age of entry into marriage/ age at first birth amongst women in Hospital facilities

3.9.5 Kruskal-Wallis Test

The Kruskal-Wallis test is a non-parametric statistical test used to determine the significant differences between the medians of three or more independent groups on a continuous or ordinal variable, without assuming normal distribution. It is useful in

research settings where the assumptions of ANOVA are not met. The test ranks all the observations from the women in household and women in hospital groups and then compare the sum of ranks to each other, noting the differences between them. The Kruskal-Wallis test is widely applied in various fields where data may be skewed, ordinal or sample sizes unequal.

Formular

$$H = \frac{12}{N(N+1)} \sum_{i=1}^k \frac{R_i^2}{n_i} - 3(N+1)$$

Where

N = Level of accessibility

k = Number of independent groups being observed (communities)

n_i = Level of accessibility in each community

R_i = The mean rank – sum of ranks in each community

ε = Total number of respondents across all communities

3.9.6 Multinomial Logistics Regression (MLR)

Multinomial logistic regression often called multinomial regression, belongs to the broader class of generalized linear models (GLMs), where a dependent variable follows a multinomial distribution and the log-odds of the outcomes are modeled as a linear combination of the predictors. It is sometimes considered as an extension of binomial logistic regression to allow for a dependent variable with more than two categories. Unlike linear regression, MLR predicts probabilities for each class, allowing the researcher to classify the observations in order of the different outcomes. It is of particular interest because of its flexibility and ability to handle a variety of data types and is widely used as a categorical data analytic tool in social science,

marketing, education and biomedical research. Mathematically, MLR estimates a set of logistic regression equations for each categories and is expressed as thus:

$$\log \left(\frac{P(Y=j)}{P(Y=\text{ref})} \right) = \beta_{0j} + \beta_{1j}X_1 + \beta_{2j}X_2 + \dots + \beta_{pj}X_p$$

Where

$j=1,2,\dots,k-1$: each non-reference category

$P(Y=j)$: probability of dependent variable (unwanted) in category j

$P(Y=\text{ref})$: probability of dependent variable (mistimed) reference category

X_1, X_2,\dots,X_p = Independent variables (age of respondent, marital status, ethnicity, educational level, religion, occupation, income, house size, decision making, age at entry, age at first birth)

3.9.7 Multivariate Logistics Regression

Multivariate logistics regression is a type of logistic regression where there are two or more dependent variables and each of them is binary (0/1). It is particularly appropriate when the outcomes are conceptually related or potentially correlated, as it accounts for the covariance among error terms across equations. The use of multivariate logistics regressions enhances inferential accuracy by accounting for interdependence between outcomes while preserving the interpretability of regression coefficients.

Formula

$$\log \left(\frac{p_j}{1-p_j} \right) = \beta_{0j} + \beta_{1j}X_1 + \beta_{2j}X_2 + \dots + \beta_{kj}X_k \quad \text{for } j = 1,2,\dots,m$$

Where Y_j = dependent variables (mistimed or unwanted)
 1 = intended

β_{oj} = independent variables (age of entry, marital status, age of respondent, religious, decision making, income, age at first birth, ethnicity)

3.9.8 Spatial Statistics (Inverse Distance Weight)

The Inverse Distance Weighting (IDW) formula estimates a value at an unknown location by calculating a weighted average of known values at surrounding locations. The weights are determined by the inverse of the distance between the unknown location and the known locations, often raised to a power. Inverse Distance Weighting (IDW) is a deterministic spatial interpolation method that estimates the value of a variable at an unknown location by calculating a weighted average of known values at surrounding locations. The weight assigned to each known value is inversely proportional to its distance from the unknown location. Essentially, closer points have a greater influence on the interpolated value than points further away. IDW is widely used in various fields, including GIS (Geographic Information Systems), hydrology, and environmental science for tasks like mapping variables, interpolating data, and creating surfaces from sampled data. IDW is a deterministic method, meaning it produces a specific value for the unknown location based on the known values and distances. It is a relatively simple and computationally efficient technique to use and it is widely implemented in various GIS software packages.

The IDW is expressed as:

$$z(x) = (\sum(w_i * z_i)) / (\sum(w_i)) \dots \dots \dots \text{Equation}$$

2. Weight Calculation (w_i):

The weight ' w_i ' is typically calculated as:

$$w_i = 1 / d_i^p$$

Where

$z(x)$ = The estimated accessibility score to family planning services at a community (Ehor, Igieduma, Ugbowo)

Z_i = Known availability or quality of family planning services at a facility

d_i = The distance from the community to each nearby health facility

w_i : The weight assigned to location 'i'. This is calculated based on the distance between 'x' and 'i'.

Σ = Total number of facilities with family planning services.

3.9.9 Reflexive Thematic Analysis

Reflexive thematic analysis (RTA) was used to analyze the interview guide responses from healthcare facilitators. The process followed the six phases outlined by Braun and Clarke (2006, 2019). First, familiarization was achieved by repeatedly reading through the transcripts to gain an in-depth understanding of the data. This was followed by systematic coding, where meaningful features of the data relevant to the research questions were identified and labeled. The codes were then organized into potential themes that captured patterns across participants' responses.

In the next phase, the themes were reviewed to ensure they accurately reflected both the coded data and the broader dataset. This repetitive process involved refining, collapsing, or separating themes to enhance coherence. Once confirmed, each theme was clearly defined and named, highlighting its scope, meaning, and significance in relation to family planning service delivery. Finally, the findings were written up, weaving together the themes, illustrative quotes from healthcare facilitators, and then triangulated with the findings from the quantitative analyzes thereby emphasizing the MMR employed.

CHAPTER FOUR

SOCIO-ECONOMIC AND DEMOGRAPHIC CHARACTERISTICS OF THE STUDY POPULATION

4.1 Introduction

This chapter focuses on the social, economic, and demographic attributes of residents in the research area. The primary objective is to explore the socioeconomic and demographic composition of the population and provide insight into how these factors influence behaviours and responses to the multidimensional implications of the prevalence and determinants of unintended pregnancy in Edo South. The way individuals respond to a phenomenon such as unintended pregnancy is often shaped by their social standing, economic conditions, and demographic background. Data were collected and presented from two key groups: women of reproductive age in their households and pregnant women accessing services in health facilities across the research area. To analyze the data related to these characteristics, a non-inferential (descriptive) and inferential statistical technique were employed. These methods were appropriate as they provided a clear and straightforward representation of the data, allowing for easier interpretation and a more comprehensive understanding of the results in relation to the study's objectives.

Data were collected from 562 women of sexually reproductive age residing in their houses and 444 women of sexually reproductive age attending health facilities across the research area in Edo South. This broad and inclusive data set allows for a comprehensive understanding of how age intersects with other social, economic,

demographic and health-related factors to influence reproductive outcomes and experiences with unintended pregnancies.

4.2 Demographic, Social-Economic and Health Related Characteristics

The social, economic, and demographic features of the respondents presented are age and age-related demographic characteristics (age of entering marriage and age of first birth), education, marital status, occupation, household size, monthly income, ethnicity, number of births, desire to have more children, number of more children, decision-making authority on desired family size, and religious and cultural support for large family size.

4.2.1 Age and Age-Related Demographic Characteristics

The age of respondents is a crucial demographic variable in understanding the multidimensional implications of the prevalence and determinants of unintended pregnancy. Age influences fertility behavior, contraceptive use, reproductive intentions, and the overall risk of experiencing unintended pregnancies. Younger women, particularly adolescents, often face distinct challenges which differs from older women that may have different reproductive goals and experiences. Therefore, analyzing age patterns provides valuable insights into the age-specific vulnerabilities and needs within the population. See Figure 4.1 for the frequency distribution of age and age-related characteristics of the respondents.

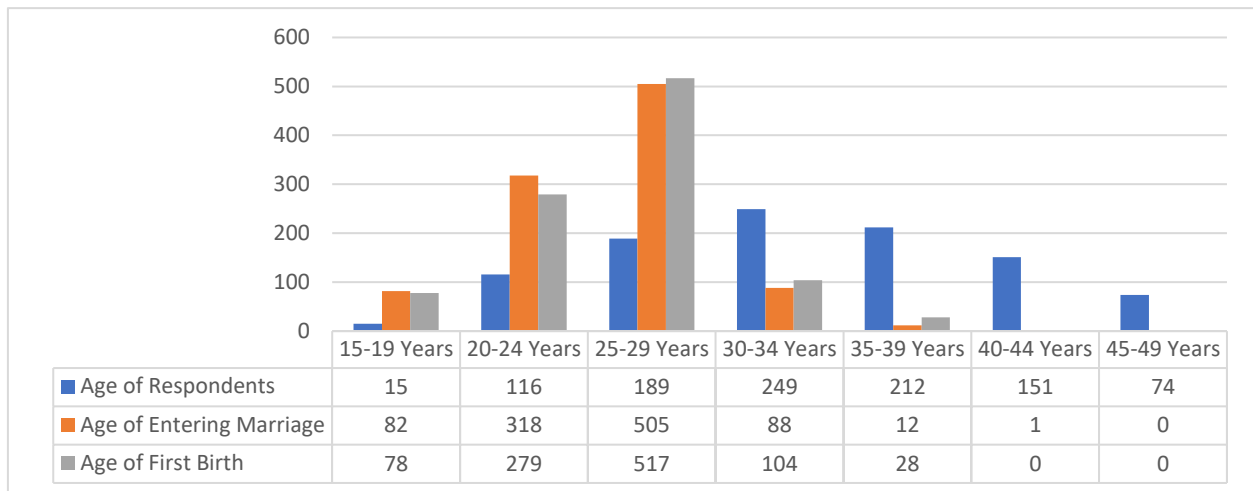


Figure 4.1: Age of the Respondents
Source: Author’s Computation, 2025

It can be observed from Figure 4.1 that the distribution of age categories for respondents, age at first marriage, and age at first birth revealed notable patterns. A significant proportion of respondents (249) were in the 30–34 age group, followed closely by those aged 35–39 (212) and 25–29 years (189). This trend suggested that the study population was predominantly within the prime reproductive age range, which may be linked to the relevance of reproductive health topics among this demographic. Regarding age at first marriage, the majority of respondents reported marrying between the ages of 25–29 years (505) and 20–24 years (318). This pattern could reflect prevailing social and cultural norms that encourage marriage during young adulthood. The low incidence of marriage before age 20 might indicate increasing awareness of the implications of early marriage, possibly due to educational attainment, advocacy efforts, or changes in legal frameworks surrounding the age of consent and marriage.

Similarly, most respondents (796) reported having their first child between the ages of 25–29 and 20–24 years. The data implied that childbearing typically followed soon after marriage, suggesting a close temporal link between marital union and the onset of fertility. The relatively low number (78) of first births below age 20–24 reflected delayed childbearing, potentially as a result of practice of female child waiting to finish at least secondary school education or learning a vocational trade before getting into marriage. This is similar to the works of Bailey (1989) and Chaunhuri (1983) who affirmed that a woman’s age at first marriage is inversely and significantly related to fertility. This is also supported by a study conducted in Abuja that showed over half of the surveyed women (51.2%) having their first pregnancy within one year of marriage (Abubakar & Ayuba, 2015). Similarly, a nationwide analysis using 2013 Nigeria Demographic and Health Survey (NDHS) data also reported that the median age at first birth was around 20 years, with 88% of first births occurring before the age of 30 (Adewuyi et al., 2016). These patterns were consistent with broader demographic transitions where fertility is increasingly postponed due to socioeconomic development, improved access to reproductive health services, and shifting gender roles in the society. Table 4.1 show the descriptive statistics of age-related demographic characteristics of the respondents.

Table 4.1: Descriptive statistics of age-related demographic characteristics of the respondents

| Variable N=1006 | Household Group (Mean) | | | Hospital Group (Mean ± SD) | | |
|--------------------------|------------------------|---------|---------|----------------------------|---------|---------|
| | Mean | Median | ± SD | Mean | Median | ± SD |
| Age of Respondents | 33.5907 | 34.0000 | 7.95238 | 32.5383 | 32.0000 | 6.65810 |
| Age of Entering Marriage | 24.4858 | 25.0000 | 3.60392 | 24.9122 | 25.0000 | 4.10845 |
| Age of First Birth | 25.1352 | 25.0000 | 3.97804 | 25.4347 | 25.0000 | 4.07578 |

Source: Author's Computation, 2025.

The findings revealed patterns in age-related demographic characteristics that help explain certain reproductive behaviors among women of reproductive age in both the household and hospital groups. Table 4.1 revealed that the age of respondents in both groups suggested that the majority were in their early to mid-thirties (32-34 years), a period often associated with active reproductive life. This reflects the fact that women within this age group are more likely to have established family structures, which may influence their exposure to, or need for, family planning services.

The reported age of entering marriage indicated that most women entered marital unions in their mid-twenties (25 years). This aligns with common sociocultural expectations in many parts of Nigeria, where marriage is often regarded as a prerequisite for childbearing. The slight delay observed in the hospital group may be due to greater exposure to education or employment opportunities, which can lead to postponed marriages.

Similarly, the age at first birth (25 years) followed closely after marriage, which is expected given the cultural norm that emphasizes childbearing soon after marriage.

These patterns highlight the influence of social expectations, economic conditions, and access to reproductive health education in shaping reproductive decisions. Together, these demographic indicators offer insight into the timing of life events that may contribute to the prevalence of unintended pregnancies, especially when access to modern contraceptive methods or awareness of reproductive health options is limited. The Kolmogorov-Smirnov test of normality was conducted to determine whether the age-related variables followed a normal distribution among respondents in both the community and hospital groups. The Kolmogorov-Smirnov test was employed as $n \geq 50$. Table 4.2 shows the normality test result.

Table 4.2: Kolmogorov-Smirnov Tests of Normality

| Age-related characteristics | Kolmogorov-Smirnov ^a | | |
|------------------------------------------------------|---------------------------------|-----|------|
| | Statistic | df | Sig. |
| Age of Respondent (Community) | .076 | 562 | .000 |
| Age of Entry into Marriage of Respondent (Community) | .072 | 448 | .000 |
| Age of First Birth of Respondent (Community) | .117 | 448 | .000 |
| Age of Respondent (Hospital) | .073 | 442 | .000 |
| Age of Entry into Marriage of Respondent (Hospital) | .089 | 344 | .000 |
| Age of First Birth of Respondent (Hospital) | .065 | 344 | .001 |

a. Lilliefors Significance Correction

Source: Author's Computation, 2025.

The test results in Table 4.2 indicated that none of the variables met the assumption of normality, as all significance values were less than the threshold of .05. This suggested that the distributions of respondents' age, age at first marriage, and age at first birth significantly deviated from normality between the different groups of respondents. These outcomes were expected, given that age-related demographic

variables in human populations often exhibit skewed distributions due to underlying social, cultural, and economic factors. For instance, the age at first marriage and first birth may be influenced by societal norms that dictate early or delayed transitions into adulthood and childbearing. Additionally, access to education, healthcare, and family planning services likely contributed to variations in these age-related behaviors, further deviating the data from a normal curve. As such, the rejection of normality implied that non-parametric statistical methods would be more appropriate for analyzing these variables in subsequent sections of the research.

Table 4.3 shows the Mann-Whitney test rank and statistics. The test was used to compare age-related demographic characteristics between women in the household and hospital respondents. This non-parametric test was appropriate due to the non-normal distribution of the data as previously established through normality tests. Thus, the Mann-Whitney test was used to test the hypothesis “There is no significant difference in the distribution of age, age of entry marriage, and age of first birth of the respondents between women of reproductive.”

Table 4.3: Mann-Whitney’s Test Ranks

| Age-related characteristics | Group of Respondents | N | Mean Rank | Sum of Ranks |
|------------------------------------------|-----------------------------|-------------|------------------|---------------------|
| Age of Respondent | Women in Household | | 521.73 | 293212.50 |
| | Women in Hospital | | 480.42 | 213308.50 |
| Age of Entry into Marriage of Respondent | Women in Household | | 489.54 | 275121.50 |
| | Women in Hospital | | 521.17 | 231399.50 |
| Age of First Birth of Respondent | Women in Household | | 494.70 | 278020.00 |
| | Women in Hospital | | 514.64 | 228501.00 |
| | Total | 1006 | | |

Mann-Whitney Test Statistics^a

| | Age of Respondent | Age of Entry into Marriage of Respondent | Age of First Birth of Respondent |
|------------------------|-------------------|------------------------------------------|----------------------------------|
| Mann-Whitney U | 114518.500 | 116918.500 | 119817.000 |
| Wilcoxon W | 213308.500 | 275121.500 | 278020.000 |
| Z | -2.241 | -1.731 | -1.092 |
| Asymp. Sig. (2-tailed) | .025 | .084 | .275 |

a. Grouping Variable: Group of Respondents

Source: Author’s Computation, 2025.

Table 4.3 showed that for the age of respondents, the results indicated a statistically significant difference between the two groups, $U = 114518.500$, $Z = -2.241$, $p = .025$.

Women in the household group had a higher mean rank (521.73) compared to those in the hospital group (480.42), suggesting that household respondents were generally older. This outcome could be attributed to the broader age range typically captured in household surveys, which included women (40-49 years old) who are not actively seeking reproductive health services and thus less likely to be represented in hospital samples.

In contrast, no statistically significant difference was observed in the age of entry into marriage between the two groups, $U = 116,918.50$, $Z = -1.731$, $p = .084$. Although

women in the hospital group had a slightly higher mean rank (449.65) compared to those in the household group (489.5), this difference was not large enough to reach statistical significance. This may suggest that marriage practices are relatively consistent across the study population regardless of where the women were sampled, possibly reflecting shared cultural or religious norms in the region.

Similarly, the test for the age of first birth revealed no statistically significant difference between the two groups, $U = 119,817.00$, $Z = -1.092$, $p = .275$. The mean ranks (494.70 for the household group and 514.64 for the hospital group) were relatively close, indicating a comparable distribution of age at first birth. This consistency could be explained by the uniform influence of traditional and cultural expectations and socioeconomic pressures that dictate early motherhood across both community and hospital settings.

Generally, the findings suggested that while the age of respondents differed significantly between groups, patterns of marriage and first childbirth were similar, likely reflecting broader structural and cultural determinants shaping reproductive behavior in Edo South. These insights contributed to understanding how demographic variables intersect with the prevalence and determinants of unintended pregnancy in the district. Therefore, the null hypothesis is rejected and the alternate hypothesis which states that there is a significant difference between the age of the respondents of women reproductive age interviewed in the home and those interviewed in the hospital is accepted.

Table 4.4 shows the ethnicity of the respondents.

4.2.2 Ethnicity and Marital Status of the Respondents

Table 4.4: Ethnicity of the Respondents

| Ethnic Group | Frequency | Percent |
|---------------------|------------------|----------------|
| Bini | 441 | 43.8% |
| Esan | 132 | 13.1% |
| Yoruba | 78 | 7.8% |
| Igbo | 122 | 12.1% |
| Hausa | 8 | 0.8% |
| Ogoja | 124 | 12.3% |
| Deltan | 51 | 5.1% |
| Akoko-Edo | 14 | 1.4% |
| Afemai | 1 | 0.1% |
| Ibibio | 28 | 2.8% |
| Tiv | 2 | 0.2% |
| Efik | 1 | 0.1% |
| Igbira | 3 | 0.3% |
| Berom | 1 | 0.1% |
| Total | 1006 | 100.00 |

Source: Author's Computation, 2025.

Table 4.4 revealed that the majority (43.8%) of the respondents were of Bini origin. This was anticipated, given that the study was conducted in Edo South, a region historically and predominantly inhabited by the Bini ethnic group. The high representation of the Bini population likely reflected the demographic structure of the area which is deeply rooted in the cultural and historical legacy of the Benin Kingdom. Other notable ethnic groups included Esan, Ogoja, and Igbo. At (37.5%), the presence of these groups in significant numbers could be attributed to factors such as internal migration, intermarriage, farm labour supply in the rural areas and economic opportunities that attracted individuals from nearby states. For instance, Ogoja people are majorly engaged in farm labour supply in the rural areas and Igbo populations have settled in Edo South due to trade, farming, civil service employment, and

educational pursuits. Similarly, Yoruba respondents were represented, due to the geographic proximity of Edo State to Yoruba-speaking regions, while the Urhobho/Isoko speaking ethnicity have reflected historical and socio-economic ties between Edo and Delta States.

Ethnicity is closely tied to cultural beliefs, particularly regarding marriage, sexuality, and reproductive health. These cultural norms play a significant role in shaping attitudes and behaviors around family planning and unintended pregnancies. For example, ethnic groups with strong traditional expectations around early marriage or high fertility may exhibit different patterns of contraceptive use and reproductive decision-making. Thus, the dominance of the Bini and other major ethnic groups in the study may have influenced the findings through their shared cultural perspectives on gender roles, reproductive responsibilities, and the value placed on childbearing.

The smaller representation of other ethnicities such as Hausa, Akoko-Edo, Ibibio, and Tiv suggested limited migration or settlement in the region, while rare entries like Afemai, Efik, Igbira, and Berom reflected minimal presence, possibly due to fewer social or economic links to Edo South. These smaller groups, though less influential in shaping the overall results, may bring unique cultural perspectives to issues of family planning and reproductive health.

In Figure 4.2, the distribution of respondents' marital status indicated that a vast majority were married. This was anticipated, particularly in this research, which focuses on reproductive health and unintended pregnancy, as marital status often correlates strongly with childbearing and contraceptive use. In many Nigerian communities, especially within the cultural context of Edo South, marriage is

considered a significant milestone and is often associated with the commencement of childbearing. Hence, the high proportion of married individuals likely reflected the societal norm where marriage is both culturally, socially and religiously emphasized.

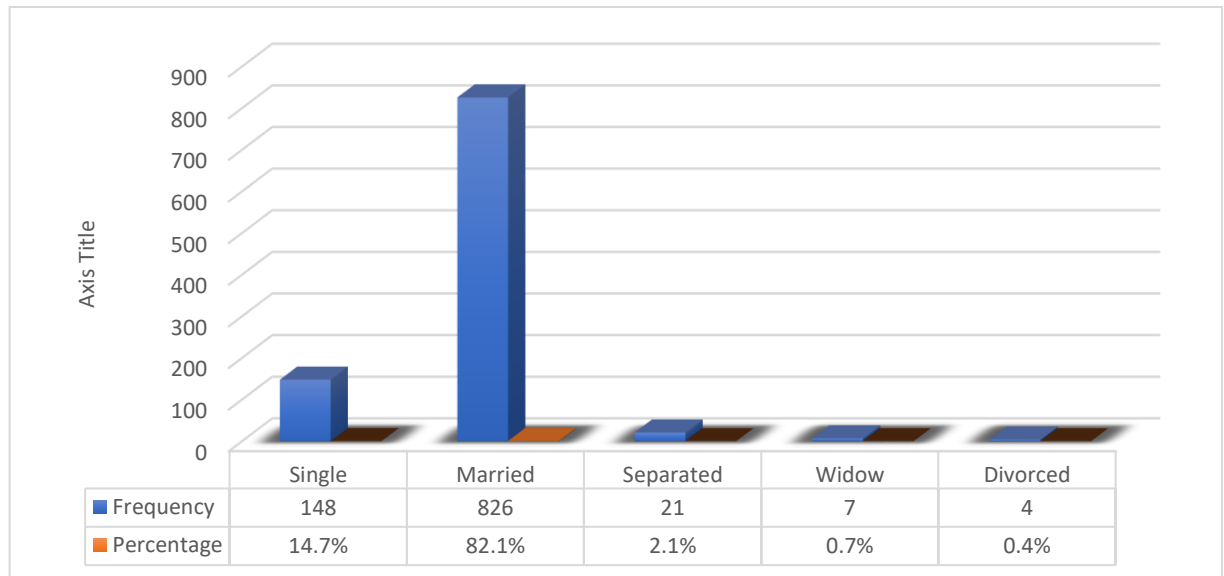


Figure 4.2: Marital Status of the Respondents
Source: Author’s Computation, 2025.

A smaller proportion of respondents (14.7%) identified as single. This was also consistent with expectations, as single individuals may not be as actively engaged in reproductive decision-making compared to their married counterparts, and might be less represented in studies centered on issues like family planning or unintended pregnancy. The representation of separated (2.1%), widowed (0.7%), and divorced (0.4%) individuals was negligible. These statuses typically constitute a smaller segment of the unintended population and also reflected social stigmas or underreporting, especially in conservative settings where such marital statuses are less openly discussed or may be culturally frowned upon. Hence, the dominance of

married respondents (82.1%) underscored the relevance of marital unions in reproductive health discussions in Edo South.

4.2.3 Educational Status and Religion of the Respondents

The analysis of respondents' educational level and religion revealed insightful patterns relevant to the study's focus. Table 4.5 shows the educational level and religion of the respondents.

Table 4.5: Educational Level and Religion of the Respondents

| Attributes | Category | Frequency | Percentage |
|------------|---------------------|-------------|-------------|
| Education | No Formal Education | 30 | 3.00% |
| | Primary Education | 47 | 4.70% |
| | Secondary Education | 507 | 50.40% |
| | Tertiary Education | 422 | 41.90% |
| Religion | Christian | 951 | 94.50% |
| | Muslim | 47 | 4.70% |
| | Traditional | 8 | 0.80% |
| | Total | 1006 | 100% |

Source: Author's Computation, 2025.

From Table 4.5, it can be observed that the vast majority of participants (92.3%) had attained at least a secondary level of education, with slightly more than half (50.40%) completing secondary education and a considerable proportion (41.90%) holding tertiary qualifications. This indicated that over 92.3% of respondents were literate in the Edo South district. The prominence of secondary and tertiary education levels likely reflected the educational advancements promoted by both government and private sectors over recent decades, particularly among women of reproductive age who are often the primary targets of reproductive health and family planning programs.

Only a lesser proportion (7.70%) of respondents had no formal education or had completed only primary education. This finding was associated with either generational gaps where older women of 45 and above had fewer educational opportunities or socio-economic limitations in certain rural areas.

In terms of religion, an overwhelming majority (94.50%) of respondents identified as Christians, followed by a small number (4.70%) of Muslims and an even smaller (0.80%) group practicing traditional religions. This religious distribution was expected in Edo South, where Christianity is the dominant faith due to historical missionary influences and ongoing religious socialization. The predominance of Christianity has played a role in shaping respondents' views on sexuality, marriage, and family life, given the strong moral and doctrinal teachings of many Christian denominations on reproductive matters. The low representation of traditional religion adherents may reflect broader societal shifts away from indigenous belief systems toward organized religion in the district.

4.2.4 Occupation and Monthly Income of the Respondents in the Study Area

Occupation and income are critical socio-economic variables that can significantly shape the prevalence and determinants of unintended pregnancy. Figure 4.3 presents a clustered bar chart showing the distribution of respondents by occupation and income level. The figure illustrates the various occupational categories and

corresponding income brackets among the participants, providing a visual summary of their socio-economic status.

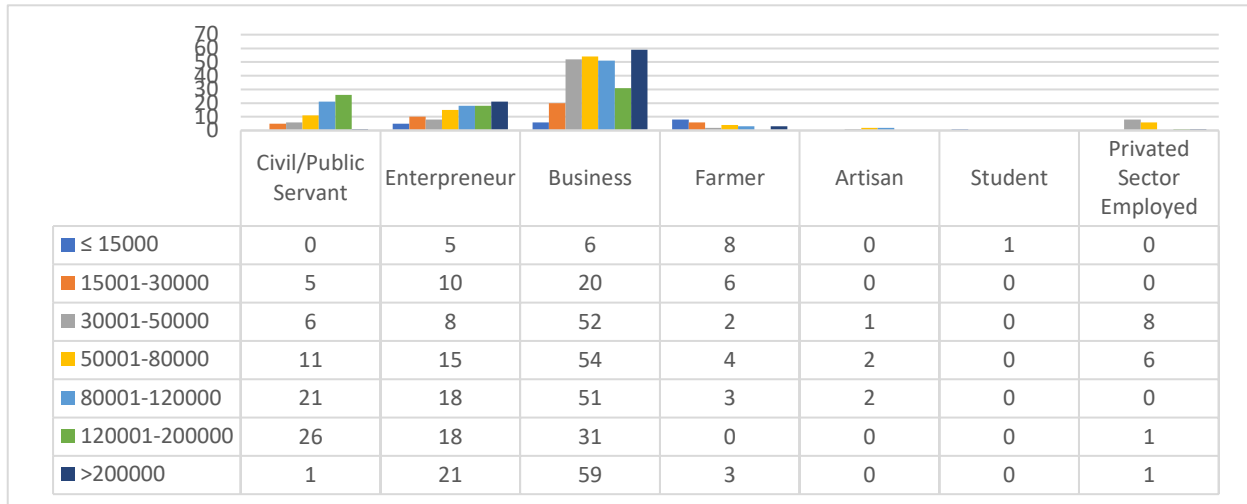


Figure 4.3: Occupation and Income Distribution of the Respondents
Source: Author’s Computation, 2025.

Figure 4.3 presented the occupational distribution of respondents along with their corresponding income categories. The majority of respondents (56.44%) reported being engaged in business, making it the most dominant occupational group in the sample. Business respondents were represented across all income brackets, with notable concentrations in the ₦30,001–₦80,000 and above ₦200,000 income ranges, suggesting a wide income variability within this group. Entrepreneurs and civil/public servants followed as the next most common occupations, accounting for 19.43% and 14.31% of respondents, respectively. Entrepreneurial respondents were distributed across all income levels, with a significant proportion earning ₦120,001–₦200,000 and above ₦200,000. Civil/public servants also appeared largely in the middle- and upper-income brackets, particularly between ₦80,001 and ₦200,000, indicating relatively stable income earnings.

Respondents working in the private sector, as well as students, artisans, and farmers, constituted smaller portions of the sample. Private sector employees made up 3.27% of respondents, mostly concentrated in the ₦30,001–₦80,000 income range. Farmers represented 5.32% of the total, with most (n=16) falling within the lower income brackets (\leq ₦30,000). Artisans accounted for 1.02%, and only one respondent (0.21%) identified as a student. Generally, the figure demonstrated that business was the predominant occupation among respondents, followed by entrepreneurial and civil service roles, while private sector employment, farming, artisanship, and student status were significantly less common.

4.2.5 Fertility Patterns and Family Size

The variables are number of births, desire to have more children, number of more children, decision-making authority on desired family size, religious influence over large family size, and cultural influence over large family size help contextualize the personal, familial, and societal forces that contribute to fertility decisions. Understanding these is crucial for developing culturally sensitive interventions that address unintended pregnancies while respecting local values and promoting reproductive health autonomy. Table 4.6 showed the relationship between household size and number of births in Edo South. The data reveal distinct patterns in the relationship between household size and parity, with a total sample of 1,006 women.

Table 4.6: Household Size and Number of Births in Edo South

| Household Size | Parity (Number of Births) | | | Total |
|----------------|---------------------------|-------------------|------------------------|-------------|
| | Primiparous (1) | Multiparous (2-4) | Grand Multiparous (≥5) | |
| 1 to 3 | 287 | 57 | 6 | 350 |
| 4 to 6 | 75 | 430 | 35 | 540 |
| 7 to 9 | 5 | 8 | 85 | 98 |
| >9 | 11 | 6 | 1 | 18 |
| Total | 378 | 501 | 127 | 1006 |

Source: Author's Computation, 2025.

For primiparous women (378), the majority (76%) resided in smaller households of 1 to 3 members. This suggested that women with only one child are more likely to live in smaller households, possibly reflecting younger couples or newly formed families with fewer dependents. In contrast, multiparous women (501) were predominantly found in households of 4 to 6 members (86%). This indicated that as the number of births increases to 2–4, household sizes tend to grow, likely due to the addition of children and possibly extended family members. Grand multiparous women (127), with five or more births, were most represented in households of 7 to 9 members (67%). This suggested that larger families with multiple children contribute to larger household sizes, potentially including extended family members or additional dependents. Notably, households with more than 9 members were rare across all parity groups (1.8%), with minimal representation from grand multiparous women (0.8%).

A possible reason for these findings may be tied to socio-cultural and economic factors prevalent in Edo South. Larger household sizes among multiparous and grand multiparous women could reflect cultural norms that value large families, where having multiple children is associated with social status or economic security (e.g.,

children as future labor or support for aging parents). Additionally, extended family structures, common in many Nigerian communities, may contribute to larger households as grandparents, siblings, or other relatives co-reside. Conversely, primiparous women in smaller households may represent younger, urbanized couples with access to family planning resources or a preference for smaller families due to economic constraints or education. These findings highlight the interplay between reproductive behavior and household composition, suggesting that interventions aimed at family planning or resource allocation in Edo South should consider household size and parity to address the specific needs of each group effectively.

Table 4.7 presents data on the desire to have more children and the preferred number of additional children among pregnant women in hospital (219) and women in household (209) in Edo South. The table categorizes the desired number of additional children into five groups (from one child to more than 4 children)

Table 4.7: Desire to have more children and the desired number of children

| | | Yes, Number of Children Desired | | | | | Total |
|----------------------------|-------------------------------|---------------------------------|----|----|----|----|-------|
| | | 1 | 2 | 3 | 4 | >4 | |
| Pregnant women in Hospital | Yes, Desire to have more kids | 54 | 89 | 45 | 21 | 10 | 219 |
| | % | | | | | | 100% |
| Women in Household | Yes, Desire to have more Kids | 69 | 56 | 48 | 11 | 25 | 209 |
| | % | | | | | | 100% |

Source: Author's Computation, 2025.

From Table 4.7 it can be observed that from the 219 pregnant women in hospital 49% expressed their desire to have more kids while 37% of the household respondents of 209 expressed the desire to have more kids. From the 219 participants pregnant women in the hospital that expressed the desire to have more children, a majority

preferred 2 additional children (41%), followed by 1 child (25%), 3 children (21%), 4 children (10%), and more than 4 children (5%). Similarly, from the 209 participants women in the house who desired more children, a majority preferred 1 additional child (33%), followed by 2 children (27%), 3 children (23%), more than 4 children (12%), and 4 children (5%).

The data indicated a strong desire for additional children in both groups, with a preference for moderate family sizes (1–3 additional children) being most common. Notably, hospital-based pregnant women showed a higher preference for 2 additional children or 1 child compared to household-based women, who leaned slightly more toward 1 child or more than 4 children. The variations reflected in the number of children desired reflected contextual differences between both groups. Also, these findings reflected the influence of socio-cultural and economic factors in the district. As the universal desire for more children in both groups may stem from cultural norms that place high value on large families, often linked to social status, lineage continuity, or economic security (e.g., children as future caregivers or laborers). The preference for 1–3 additional children among most participants indicated a balance between cultural expectations and practical considerations, such as resource constraints or access to family planning services, particularly among hospital-based women who may have greater exposure to healthcare education. The higher preference for more than 4 children among household-based women (12%) compared to (5%) in hospitals could reflect less access to family planning resources or stronger adherence to traditional values in community settings compared to hospital environments, where medical counseling might encourage smaller family sizes.

These findings underscore the importance of tailored family planning interventions in Edo South, considering the differing contexts of hospital and household settings to address reproductive preferences effectively. These findings closely aligned with earlier results on actual fertility patterns and household size, particularly from Table 4.6, which showed that most respondents had between one and four children and resided in moderately sized households. Together, the findings suggested a consistent fertility behavior pattern, where respondents, though inclined to have more children, generally maintained moderate family size ideals. Cultural norms, religious values, and economic considerations likely contributed to shaping these reproductive preferences, reinforcing earlier themes observed in the broader study and this is also in tandem with the work of Heineck (2004) who affirmed that religions exert both direct and indirect impact on the use of contraceptives.

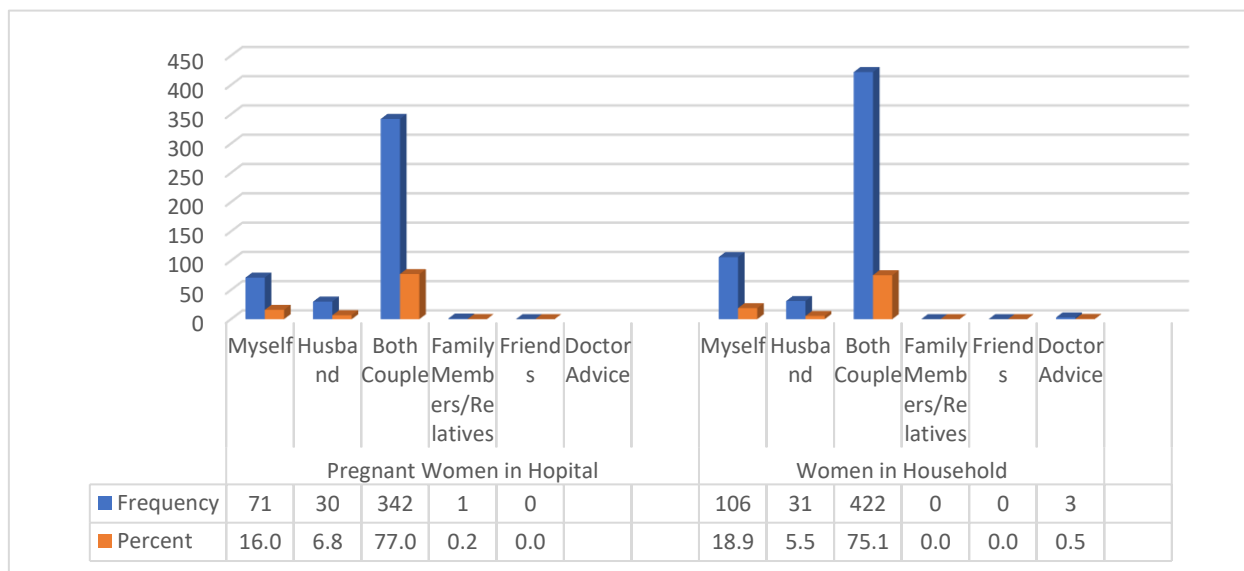


Figure 4.4: Decision-making authority on desired family size

Source: Author's Computation, 2025.

Figure 4.4 highlighted the decision-making dynamics surrounding the desire to have more children among respondents. The findings revealed that among pregnant women

in hospitals, the majority (77%) reported that the decision to have more children was made by both partners, followed by the woman herself (16%), the husband alone (6.8%), and family members/relatives (0.2%). Neither friends nor doctor's advice were cited as influencing factors. Similarly, among women in households, both partners were the primary decision-makers (75%), followed by the woman herself (19%), the husband alone (5.5%), and doctor's advice (0.5%). No decisions were attributed to family members/relatives or friends in this group.

The data indicated a strong preference for joint decision-making by both partners in both hospital and household group, with approximately three-quarters of respondents in each group reporting couple-based decisions. That is for pregnant women in hospitals 77% and for women in households 75%. Women's individual agency was more prominent than husbands' sole decision-making, and external influences (family, friends, or doctors) played a minimal role. The slightly higher percentage of women in households deciding independently (19%) compared to (16%) in hospitals and the presence of doctor's advice among household women (0.5%) compared to (0.0%) in hospitals suggest minor contextual differences.

A possible reason for these findings may be the evolving gender dynamics and cultural context in Edo South. The predominance of joint decision-making reflects a shift toward egalitarian relationships, where both partners collaborate on reproductive choices, potentially influenced by increasing education, income among these women of reproductive age, or exposure to modern family planning concepts. The higher individual decision-making among women in households compared to hospital settings may indicate greater autonomy in community contexts, where women may

feel less influenced by formal healthcare settings. The negligible influence of family members, relatives, or friends in both groups may reflect a move away from traditional extended family involvement in modern Nigerian households, particularly in urban areas in Edo South.

These findings highlight the importance of couple-centered approaches in family planning programs in Edo South, emphasizing the need to engage both partners while supporting women’s autonomy in reproductive decision-making. These findings supported previous results, particularly from Table 4.7, which demonstrated the desire for more children and a moderate number (1-3 children) of additional children desired. The shared nature of decision-making likely contributed to this consistency, as mutual agreement between partners can facilitate aligned reproductive goals. Therefore, the data suggested a family planning landscape where decisions are largely internal to the couple, with limited external interference, reinforcing the healthcare emphasis on privacy and partnership in fertility-related matters.

Table 4.8 presented data on religious and ethnic influences on the support for large family norms among respondents in Edo South, categorized by religion (Christian, Muslim, and Traditional) and ethnicity (e.g., Bini, Esan, Yoruba, etc.)

Table 4.8: Religious and Cultural support for Large Family Norms

| Groups | Variables | Large Family Size | | Total |
|--------|-----------|-------------------|----|-------|
| | | Yes | No | |

| | | | | |
|-----------|---------------|------------|-----------|-------------|
| Religion | Christian | 908 | 43 | 951 |
| | Muslim | 45 | 2 | 47 |
| | Traditional | 8 | 0 | 8 |
| Ethnicity | Bini | 419 | 22 | 441 |
| | Esan | 125 | 7 | 132 |
| | Yoruba | 70 | 8 | 78 |
| | Igbo | 119 | 3 | 122 |
| | Hausa | 8 | 0 | 8 |
| | Ogoja | 115 | 9 | 124 |
| | Urhobho/Isoko | 51 | 0 | 51 |
| | Akoko-Edo | 14 | 0 | 14 |
| | Afemai | 1 | 0 | 1 |
| | Ibibio | 28 | 0 | 28 |
| | Tiv | 2 | 0 | 2 |
| | Efik | 1 | 0 | 1 |
| | Igbira | 3 | 0 | 3 |
| | Berom | 1 | 0 | 1 |
| | Total | 957 | 49 | 1006 |

Source: Author's Computation, 2025.

Table 4.8 presented insights into the religious and cultural influences on preferences for large family size. The data indicate overwhelming support for large family size across both religious and ethnic groups in Edo South, with minimal variation. Among Christians, 95% supported large family norms, while 5% did not. For Muslims, 96% supported large families, while 4% did not. All traditional religion adherents (100%) supported large family norms. Overall, 95% of the total sample favored large families, while 5% did not.

Regarding ethnicity, 95% of Bini, 95% of Esan, 90% of Yoruba and 97.5% of Igbo respondents were of the opinion that their culture supported large family norms. Smaller ethnic groups, such as Hausa, Urhobho/Isoko, Akoko-Edo, Afemai, Ibibio, Tiv, Efik, Igbira and Berom showed 100% support for large family norms, with no opposition. The Ogoja (12.3%, n = 124) had 92.7% (n = 115) supporting large families

and 7.3% (n = 9) opposing. Across all ethnic groups, 95% supported large family norms, while 5% did not. The highest opposition to large families was observed among Yoruba (10%) and Ogoja (7%) ethnic groups, while smaller ethnic groups and Traditional religion adherents showed unanimous support for large family size. The findings revealed that religious beliefs played a significant role in shaping reproductive attitudes, with the overwhelming majority of respondents indicating that their religion supported the idea of having large families. This trend was especially prominent among Christian and Muslim participants, reflecting the doctrinal or communal values within these faiths that may associate large families with blessings, social status, or continuity of lineage. Similarly, cultural norms were shown to strongly support large family ideals across a broad spectrum of ethnic groups. Ethnicities such as Bini, Esan, Igbo, and Ogoja displayed particularly high levels of cultural endorsement for larger families. This suggested that in many communities within the research area, having more children was not merely a personal choice but was deeply embedded in cultural identity, expectations, and traditions. Such norms may be driven by economic factors (e.g., children as contributors to household labor or old-age support), social security, or traditional values that link family size to prestige and legacy.

These findings accentuated the multidimensional nature of fertility decisions in Edo South, where both religious and cultural ideologies intersect to shape reproductive behaviors. The alignment of these sociocultural institutions in promoting large families may contribute significantly to the persistence of high fertility patterns in the

region, reinforcing the importance of considering these factors in family planning interventions and policy designs.

CHAPTER FIVE

PREVALENCE AND DETERMINANTS OF UNINTENDED PREGNANCIES IN EDO SOUTH

5.1 Introduction

The research into the prevalence and determinants of unintended pregnancies is of critical importance in advancing reproductive health outcomes and informing effective policy interventions. Unintended pregnancies encompassing unwanted, mistimed, or unplanned conceptions have far-reaching implications for maternal and child health, socio-economic stability, and population dynamics. Accurately identifying how widespread unintended pregnancies are in the study area and understanding the patterns they follow across different socio-economic and demographic groups provides a foundation for targeted intervening programs and the efficient allocation of health resources.

5.2 Prevalence of Unintended Pregnancy in the Study Area

This aspect of the study reinforces Objective One, which explores the causes of unintended pregnancies among women of reproductive age in Edo South. The analysis reveals that factors such as poor access to contraception, gaps in reproductive health awareness, cultural expectations, and financial limitations contribute significantly to the occurrence of unplanned pregnancies. These findings are in line with Sustainable Development Goal 3, particularly Target 3.7, which emphasizes the need for universal access to reproductive health services and information. This section also addresses Objective Two of the study, which examines the prevalence of unintended pregnancies across socio-economic and demographic groups of sexually active

women. Furthermore, this aligns with Objective six of this study, which aims to position unintended pregnancies as a key component of the data ecosystem necessary for the implementation of SDG 3, Target 7 in the study area. The analysis provides insight into the extent and distribution of these pregnancies, identifies the most affected populations, and supports efforts toward achieving SDG 3, Target 7, while informing the development of evidence-based reproductive health policies. Incorporating data on unintended pregnancies into the broader health information system is essential for the successful implementation of Sustainable Development Goal (SDG) 3, Target 7, which seeks to ensure universal access to sexual and reproductive healthcare services. Without reliable data on the scope and nature of unintended pregnancies, efforts to reduce maternal mortality, improve access to family planning, and promote reproductive autonomy may be significantly undermined. In order to achieve the stated objectives, this study presents comprehensive data reflecting the prevalence, causes, and emotional impact of unintended pregnancies in the study area. Specifically, Tables 5.1, 5.2, and 5.3 capture the number of affected women, contributing factors, and their emotional responses, respectively, while Figure 5.1 provides a visual representation of the types of unintended pregnancies reported.

Table 5.1: Prevalence of Unintended Pregnancy

| Experience of Unintended Pregnancy | Frequency | Percentage |
|------------------------------------|-----------|------------|
| Yes | 366 | 36.4 |
| No | 640 | 63.6 |
| Total | 1006 | 100.0 |

Source: Author's Computation, 2025.

The findings from Table 5.1 indicated that over one-third (36%) of the women in the sample experienced an unintended pregnancy, highlighting a significant public health concern in Edo South. The higher proportion of women who did not experience unintended pregnancies (64%) suggests that a majority either planned their pregnancies or did not face circumstances leading to unintended ones. However, the notable prevalence of unintended pregnancies (366) underscores potential gaps in reproductive health services or decision-making processes. A possible reason for the observed prevalence of unintended pregnancy could be limited access to or utilization of effective family planning methods in Edo South affirming the work of Makinde et al. (2022) who stated that physical access remains a significant obstacle to accessing reproductive health facilities. Socio-cultural factors, such as pressure to have moderate size families (as suggested by related data in Table 4.7) or limited autonomy in reproductive decision-making (as indicated in Figure 4.4), may contribute to inconsistent use of contraception. Additionally, economic constraints, lack of comprehensive sex education, or inadequate healthcare infrastructure could exacerbate the risk of unintended pregnancies, particularly among younger or less-educated women. The high proportion of women not experiencing unintended pregnancies may reflect some level of awareness or access to family planning resources possibly among hospital-based populations.

Figure 5.1 presents the feelings of women (366) toward their unintended pregnancies, either for the first or subsequent times, in Edo South. Unintended pregnancy was categorized as mistimed and unwanted. The data show that 56% (206) of women reported their pregnancies as unwanted and 44% (160) as mistimed.

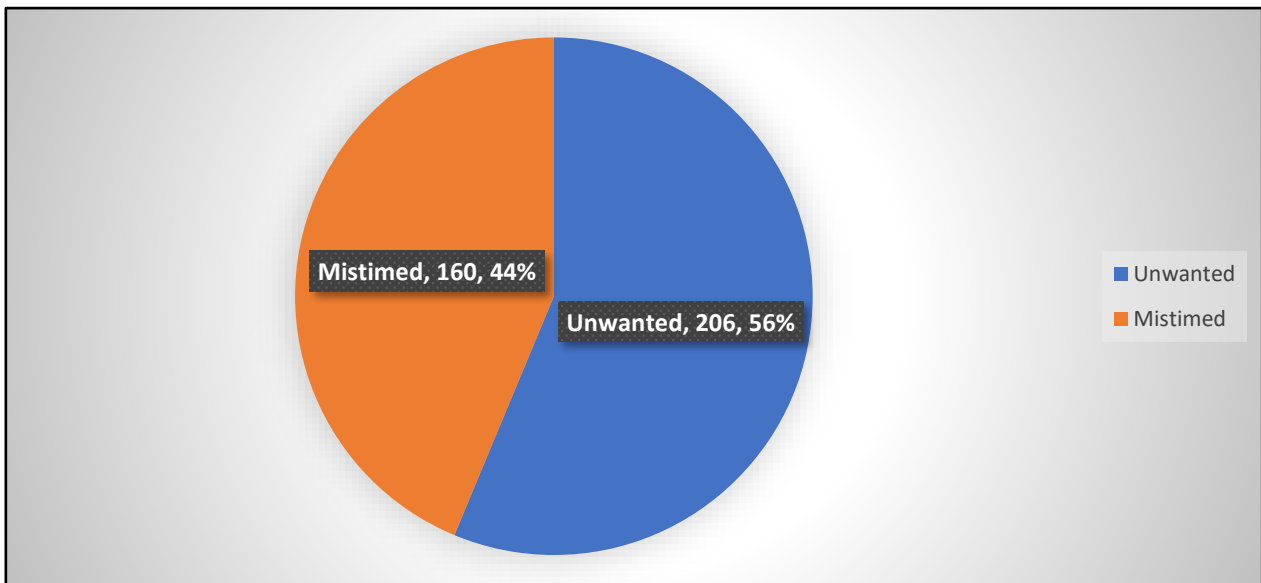


Figure 5.1: Distribution of the Nature of Unintended Pregnancy
Source: Author's Computation, 2025.

Figure 5.1 indicated a significant prevalence of negative sentiments toward unintended pregnancies, with over half (56%) of the women perceiving their pregnancies as unwanted and 44% as mistimed.

These findings pointed to the necessity of comprehensive support systems, including access to affordable contraception, reproductive education, and counseling services. Several factors may explain the prevalence observed, including inconsistent contraceptive use, limited access to reproductive health services, cultural stigmas surrounding contraception, and relationship dynamics that affect reproductive autonomy. Differences in age and life stage may also influence the likelihood of unintended pregnancies.

Table 5.2 examines the association between pregnancy intent (mistimed and unwanted) and group (women in household vs. hospital groups) among 366 women with unintended pregnancies in Edo South. The data are analyzed using a chi-square

test and contingency coefficient to assess the relationship between group and pregnancy intent. This was also used to test hypothesis 2 that states that “there is no significant association between pregnancy intent and the grouping (house & hospital) among women in Edo South”

Table 5.2: Association between Pregnancy Intent and Group (Household vs. Hospital) in Edo South

| Group | Mistimed | Unwanted | Total | Value | | Asymptotic Significance (2-sided) | |
|-------------------|----------|----------|-------|----------------|-------------------------|-----------------------------------|-------------------------|
| | | | | X ² | Contingency Coefficient | X ² | Contingency Coefficient |
| Women in House | 104 | 96 | 200 | 13.874 | .191 | .001 | .001 |
| Women in Hospital | 57 | 109 | 168 | | | | |
| Total | 144 | 189 | 366 | | | | |

Source: Author’s Computation, 2025.

From the results in Table 5.2, it can be observed that among women in households, 52% as mistimed and 48% as unwanted. In contrast, among women in hospital settings, 35% as mistimed and 65% as unwanted. The chi-square test yielded a value of 13.874 with an asymptotic significance of .001 (2-sided), indicating a statistically significant association between group and pregnancy intent. The contingency coefficient of .191 ($p = .001$) suggests a weak to moderate association and of such the null hypothesis is be rejected.

The results reveal notable differences in pregnancy intent between the two groups. Women in hospital settings reported a higher proportion of unwanted pregnancies (65%) compared to women in households (48%), while women in households had a higher proportion of mistimed pregnancies (52% vs. 35%). The statistically

significant association ($p = .001$) indicates that the group (home vs. hospital) is related to how women perceive their unintended pregnancies.

The differences in pregnancy intent between women in household and hospital groups appeared to stem from several underlying factors. One key reason was the disparity in access to reproductive health services. Some of the women present in the hospitals may be there because their pregnancies were unwanted and they needed medical advice, intervention, or support. This likely accounted for the higher proportion of unwanted pregnancies recorded among hospital respondents. In contrast, women experiencing mistimed pregnancies seemed less likely to seek immediate medical care, which explained the higher rate of mistimed pregnancies reported among those in household settings.

Health-seeking behavior also played a critical role. Women who accessed hospital services were likely more informed about the consequences of unintended pregnancy, especially when the pregnancy was unwanted. This awareness may have been shaped by previous experiences, better education, or greater autonomy in making reproductive decisions. Meanwhile, women who remained in household settings were more often younger or economically constrained, facing social and financial barriers that limited their access to healthcare.

Cultural and social norms further influenced these patterns. In some cases, women with mistimed pregnancies avoided hospitals due to fear of stigma or family pressure. Conversely, those with unwanted pregnancies, possibly feeling greater urgency or emotional distress, were more inclined to seek formal healthcare services. The statistically significant association ($p = .001$) between setting and pregnancy intention

clearly demonstrated that the environment in which a woman experienced her pregnancy was strongly linked to how she perceived and responded to it.

The one-way Analysis of Variance (ANOVA) was used to analyze the association between pregnancy intention and demographic, social and economic attribute of the respondents and test the hypothesis that states that “there is no statistically significant difference in the mean values of demographic, social, and economic characteristics (such as age, household size, income, number of children, and years of education) across the different pregnancy intention groups (wanted, mistimed, and unwanted) among women in Edo South.”

Table 5.3 presents the results of a one-way ANOVA that examined the association between pregnancy intention (wanted, mistimed, or unwanted) and various demographic, social, and economic characteristics among the respondents in Edo South. The variables analyzed included age, marital status, ethnicity, education, religion, occupation, income, household size, age at first marriage, age at first birth, parity, and distance to health facility. The table reported mean values, standard deviations, F-statistics, and p-values for each variable across the three pregnancy intention categories.

Table 5.3: One-Way ANOVA Results for Pregnancy Intention by Demographic, Social and Economic Characteristics

| Variable | Mistimed (Mean ± SD) | Unwanted (Mean ± SD) | F | p-value |
|-----------------------------|----------------------|----------------------|--------|---------|
| Age | 35.0 ±7.2 | 33.4 ±8.0 | 3.469 | 0.032 |
| Marital Status | 2.0 ±0.4 | 1.8 ±0.5 | 3.444 | 0.033 |
| Ethnicity | 2.3 ±2.1 | 2.9 ±2.4 | 3.183 | 0.43 |
| Education | 3.4 ±0.6 | 3.2 ±0.8 | 10.537 | 0.001 |
| Religion | 1.1 ±0.3 | 1.0 ±0.2 | 1.668 | 1.9 |
| Occupation | 2.8 ±0.9 | 3.2 ±1.3 | 4.843 | 0.008 |
| Income | 475919.36 ±2580234.0 | 178061.2 ±312637.6 | 0.824 | 0.44 |
| Household Size | 1.8 ±0.5 | 1.7 ±0.7 | 3.685 | 0.026 |
| Age of entry | | | | |
| Marriage | 24.6 ±3.4 | 25.0 ±4.0 | 0.67 | 0.512 |
| Age of first Birth | 24.7 ±3.3 | 25.1 ±4.1 | 3.628 | 0.074 |
| Parity | 2.9 ±1.4 | 2.7 ±1.8 | 4.24 | 0.015 |
| Distance to Health Facility | 2.9 ±0.8 | 3.0 ±0.7 | 0.546 | 0.58 |

Source: Authors Computation, 2025

Significant differences were observed for several variables in Table 5.3. For age, the mean values were 35.0 ± 7.2 years (mistimed) and 33.4 ± 8.0 years (unwanted), with an F-value of 3.469 and a p-value of .032, indicating a statistically significant difference. Marital status also showed significant variation ($F = 3.444$, $p = .033$) with means of 2.0 ± 0.4 (mistimed), and 1.8 ± 0.5 (unwanted). Education level was highly significant ($F = 10.537$, $p = .001$), with means of 3.4 ± 0.6 (mistimed) and 3.2 ± 0.8 (unwanted). Occupation showed significant differences ($F = 4.843$, $p = .008$), with means of 2.8 ± 0.9 (mistimed) and 3.2 ± 1.3 (unwanted). Household size was significant ($F = 3.685$, $p = .026$), with means of 1.8 ± 0.5 (mistimed) and 1.7 ± 0.7 (unwanted). Parity also showed a significant association ($F = 4.24$, $p = .015$), with means of 2.9 ± 1.4 (mistimed) and 2.7 ± 1.8 (unwanted). No significant differences

were found for ethnicity ($F = 3.183, p = .43$), religion ($F = 1.668, p = 1.9$), income ($F = 0.824, p = .44$), age at first marriage ($F = 0.67, p = .512$), age at first birth ($F = 3.628, p = .074$), or distance to health facility ($F = 0.546, p = .58$).

The results indicated that pregnancy intention was significantly associated with age, marital status, education, occupation, household size, and parity, but not with ethnicity, religion, income, age at first marriage, age at first birth, or distance to health facility. Women with mistimed pregnancies tended to be older ($M = 35.0$) and had higher parity ($M = 2.9$) compared to those with unwanted pregnancies ($M = 33.4, M = 2.7$). Women with wanted pregnancies had higher education levels ($M = 3.7$) compared to those with mistimed ($M = 3.4$) or unwanted pregnancies ($M = 3.2$).

The findings strongly pointed to the powerful influence of socio-economic and demographic factors on reproductive decision-making in Edo South and also affirms the work of Bongaart (2015) which asserts that the causes and variations in fertility can be traced to the proximate determinants of fertility which are biological and behavioural. Education emerged as a key determinant woman with higher levels of education were significantly more likely to consider their pregnancies wanted. This likely reflected greater awareness of family planning options and improved access to resources that support aligning childbearing with personal and career goals. Age and parity also played a decisive role; older women with multiple children were more likely to report mistimed pregnancies, possibly due to declining contraceptive use or unexpected fertility later in life. Interestingly, income and proximity to health facilities showed no significant association, suggesting that cultural norms, personal agency, and marital context may outweigh economic or geographic barriers in shaping

pregnancy intentions. These insights suggest the need for interventions that prioritize educational empowerment and address age- and parity-related dynamics to improve reproductive planning outcomes in the district.

Table 5.4 presents the results of a one-way analysis of variance (ANOVA) that investigated mean differences in fertility preferences, cultural influences, and family planning attitudes by pregnancy intention (mistimed and unwanted) among women in Edo South. The variables analyzed included desire to have more children, number of children desired, religious encouragement of large families, cultural encouragement of large families, experience of unexpected pregnancy, and attitude toward family planning. The table reported mean values, standard deviations, F-statistics, and p-values for each variable across the two pregnancy intention categories.

Table 5.4: One-Way ANOVA Results on Fertility, Culture and Family Planning by Pregnancy Intention in Edo South

| Variable | Mistimed (Mean ± SD) | Unwanted (Mean ± SD) | F | p-value |
|----------------------------------|-------------------------------------|-------------------------------------|----------|----------------|
| Desire to have more Kids | 1.7 ±0.5 | 1.8 ±0.6 | 5.77 | 0.003 |
| Number of Kids Desired | 1.8 ±1.1 | 2.2 ±1.1 | 3.258 | 0.042 |
| Religion Encourage Large Family | 1.1 ±0.2 | 1.0 ±0.2 | 0.116 | 0.891 |
| Culture Encourage Large Family | 1.0 ±0.2 | 1.0 ±0.2 | 0.531 | 0.589 |
| Experienced Unexpected Pregnancy | 1.0 ±0.0 | 1.0 ±0.1 | 1.416 | 0.244 |
| Attitude Towards Family Planning | 3.2 ±1.3 | 3.0 ±1.3 | 3.021 | 0.050 |

Source: Author's Computation, 2025.

From Table 5.4 significant differences were observed for three variables. For desire to have more children, the mean values were 1.7 ± 0.5 (mistimed) and 1.8 ± 0.6 (unwanted), with an F-value of 5.77 and a p-value of .003, indicating a statistically

significant difference. The number of children desired also showed significant variation ($F = 3.258, p = .042$), with means of 1.8 ± 1.1 (mistimed) and 2.2 ± 1.1 (unwanted). Attitude toward family planning was significant ($F = 3.021, p = .05$), with means of 3.2 ± 1.3 (mistimed) and 3.0 ± 1.3 (unwanted). No significant differences were found for religious encouragement of large families ($F = 0.116, p = .891$), cultural encouragement of large families ($F = 0.531, p = .589$), or experience of unexpected pregnancy ($F = 1.416, p = .244$).

The results indicated that pregnancy intention was significantly associated with the desire to have more children, the number of children desired, and attitudes toward family planning. Women with mistimed pregnancies had a lower desire to have more children ($M = 1.7$) and more positive attitudes toward family planning ($M = 3.2$) compared to those with unwanted pregnancies ($M = 1.8, M = 3.0$). However, women with unwanted pregnancies desired a higher number of children ($M = 2.2$) compared to those with mistimed ($M = 1.8$). The lack of significant differences in religious or cultural encouragement of large families suggested that these factors were uniformly perceived across all groups. These non-significant values were reflected in Table 5.3 as religion and ethnicity were also not significant.

Table 5.5 presents the model fit summary for a Multinomial Logistic Regression analysis was employed to check the relationship between causes of unintended pregnancy (non-use of contraceptives, contraceptive failure, rape and inadequate knowledge of sex education, misuse/irregular use of contraceptives, cultural inclination, religious belief, and non-challant attitude toward pregnancy planning) and pregnancy intentions (mistimed and unwanted pregnancies).”

multinomial logistic regression analysis that examined predictors of pregnancy intention (mistimed and unwanted) among women in Edo South. The table included model fitting information and pseudo-R-square values to assess the goodness of fit.

Table 5.5: Multinomial Logistic Regression Model Fit Summary for Predictors of Pregnancy Intention

| Model Fitting Information | | | | | Pseudo R-Square | |
|---------------------------|------------------------|------------------------|----|-------|-----------------|-------|
| | Model Fitting Criteria | Likelihood Ratio Tests | | | Cox and Snell | 0.092 |
| | -2 Log Likelihood | Chi-Square | df | Sig. | Nagelkerke | 0.109 |
| Model Intercept Only | 145.001 | | | | McFadden | 0.052 |
| Final | 110.418 | 34.584 | 16 | 0.005 | | |

Source: Author's Computation, 2025.

As shown in Table 5.5, the multinomial logistic regression model significantly improved the prediction of pregnancy intention when predictors such as sex education, family planning use, contraceptive knowledge, and related factors were included. The final model yielded a statistically significant improvement over the intercept-only model, $\chi^2(16) = 34.584, p = .005$, indicating that the set of predictors reliably distinguished between the pregnancy intention categories (wanted, mistimed, and unwanted). Therefore, the null hypothesis was rejected.

The model fit indices demonstrated moderate explanatory power. The Nagelkerke R^2 was 0.109, suggesting that approximately 10.9% of the variance in pregnancy intention was explained by the predictors in the model. Similarly, the Cox and Snell R^2 was 0.092, while McFadden's R^2 was 0.052, further indicating a modest model fit. This result was due to the multifaceted and context-specific nature of pregnancy intention, which may not be fully explained by individual-level predictors alone.

Factors such as cultural norms, partner influence, and interpersonal dynamics such as patterns of interaction, communication, media influence, and relationships between individuals especially in close relationships (partners, family members, or peers) which were not included in the model might also play significant roles in shaping how women perceive and categorize their pregnancies. Therefore, while the model showed significant predictive capacity, it captured only part of the complex interplay influencing pregnancy intention in the study population.

Table 5.5 presented the parameter estimates from a multinomial logistic regression analysis that examined predictors of pregnancy intention (mistimed and unwanted) among women in Edo South. The predictors included non-use of contraceptives, contraceptive failure, rape and inadequate knowledge of sex education, misuse/irregular use of contraceptives, cultural inclination, religious belief, and non-challant attitude toward pregnancy planning. The table reported coefficients (B), standard errors, Wald statistics, degrees of freedom, p-values, odds ratios (Exp(B)), and 95% confidence intervals for the odds ratios.

Table 5.6: Parameter Estimates of Multinomial Logistic Regression Analysis

| Variables | Mistimed | | | | Unwanted | | | |
|-----------------------------------------------------------------------------------|----------|-----------------|-------|------|----------|----------------|-------|------|
| | B | Exp (B) | Wald | Sig | B | Exp (B) | Wald | Sig |
| [Non-use of Contraceptive led to Unwanted Pregnancy=1.00] | -1.568 | .208 | 7.701 | .006 | -1.000 | .368 | .537 | .063 |
| [Contraceptive Failure=1.00] | -.361 | .697 | .560 | .454 | .151 | 1.163 | .458 | .742 |
| [Rape led to Unwanted Pregnancy=1.00] | -1.116 | .328 | .840 | .359 | .030 | 1.031 | 1.139 | .979 |
| [Inadequate Knowledge of Sex Education led to Unwanted Pregnancy=1.00] | -1.029 | .357 | 2.737 | .098 | -.719 | .487 | .594 | .225 |
| [Misuse/Irregular use of Contraceptive led to Unwanted Pregnancy=1.00] | .634 | 1.885 | .461 | .497 | .003 | 1.003 | .931 | .997 |
| [Cultural Inclination led to Unwanted Pregnancy=1.00] | -21.688 | 3.810E-10 | . | . | -2.244 | .106 | 1.766 | .204 |
| [Religious Belief led to Unwanted Pregnancy=1.00] | 23.434 | 15042284443.777 | . | . | 21.216 | 1636253655.585 | .000 | . |
| [Non-chanlant Attitude towards Pregnancy Planning led to Unwanted Pregnancy=1.00] | -.423 | .655 | .258 | .611 | .714 | 2.041 | .781 | .361 |

See appendix 4 for Parameter Estimates of Multinomial Regression Analysis

The results indicated that non-use of contraceptives significantly reduced the odds of having a mistimed pregnancy relative to a wanted pregnancy (OR = 0.208, p = .006).

This suggested that women who did not use contraception were less likely to report their pregnancies as mistimed, possibly because such pregnancies were more often perceived as completely unwanted or unplanned. Similarly, the odds of having an unwanted pregnancy among non-users of contraception were lower (OR = 0.368, $p = .063$), though this finding approached but did not reach conventional statistical significance.

Although inadequate knowledge of sex education was not statistically significant, it showed a trend toward reduced odds of reporting mistimed (OR = 0.357, $p = .098$) and unwanted (OR = 0.487, $p = .225$) pregnancies, potentially pointing to underlying gaps in reproductive knowledge that merit further exploration. Surprisingly, rape, contraceptive failure, and misuse/irregular use of contraception were not significantly associated with pregnancy intention categories. The wide confidence intervals and non-significant p -values suggested that these variables did not robustly predict whether a pregnancy was mistimed or unwanted when compared to being wanted.

Extreme values were noted in the odds ratios for religious belief and cultural inclination, both of which resulted in implausibly high or low odds (e.g., OR = 1.5×10^{10} for religious belief under mistimed pregnancies and OR = 3.8×10^{-10} for cultural inclination), with no standard errors reported. These anomalies likely reflected either complete separation in the data or very sparse responses in those categories, indicating estimation challenges due to small cell counts or perfect prediction.

The findings overall suggested that non-use of contraception was the most consistent and significant predictor of pregnancy intention, particularly for mistimed

pregnancies. This highlighted the critical need to improve access to and consistent use of contraceptives, as well as to strengthen sexual and reproductive health education to reduce rates of unintended pregnancies. The lack of significance for other variables, despite their known roles in reproductive outcomes, may reflect limitations in sample size, reporting bias, or cultural barriers influencing open disclosure, especially for sensitive issues like rape or religious pressure

To further illustrate the emotional impact of unintended pregnancy on respondents, the Relative Importance Index (RII) was employed to assess the intensity of their emotional responses. This was used to ascertain the emotion/feeling that was felt upon the notice of unintended pregnancy.

Table 5.7 depicts the Emotion/Feeling upon Discovering an Unintended Pregnancy as N=366 which is the total number of number of respondents that has experienced unintended pregnancy (see Table 5.1)

Table 5.7: Emotional Response to Unintended Pregnancy

| Variables | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree | Mean | RII (%) |
|-----------------------------------------------------------------|-------------------|----------|---------|-------|----------------|------|---------|
| Feelings of Surprise Upon Discovering an Unintended Pregnancy | 6 | 3 | 134 | 53 | 170 | 4.03 | 80% |
| Feelings of Fear Upon Discovering an Unintended Pregnancy | 14 | 36 | 202 | 21 | 93 | 3.39 | 67.8% |
| Feelings of Shock Upon Discovering an Unintended Pregnancy | 10 | 25 | 213 | 30 | 88 | 3.44 | 68.8% |
| Feelings of Anxiety Upon Discovering an Unintended Pregnancy | 16 | 5 | 231 | 29 | 85 | 3.44 | 68.8% |
| Feelings of Confused Upon Discovering an Unintended Pregnancy | 15 | 31 | 255 | 16 | 49 | 3.15 | 63.0% |
| Feelings of Uncertain Upon Discovering an Unintended Pregnancy | 20 | 27 | 282 | 15 | 22 | 2.98 | 59.6% |
| Feelings of Excited Upon Discovering an Unintended Pregnancy | 30 | 7 | 287 | 28 | 14 | 2.97 | 59.4% |
| Feelings of Nonchalant Upon Discovering an Unintended Pregnancy | 41 | 8 | 309 | 6 | 2 | 2.78 | 55.6% |
| Feelings of Relived Upon Discovering an Unintended Pregnancy | 44 | 5 | 310 | 5 | 2 | 2.77 | 55.4% |

Source: Author's Computation, 2025.

The results presented in Table 5.7 showed a hierarchy of emotional responses reported by participants upon discovering an unintended pregnancy, ranging from highly intense negative emotions to less common neutral or positive reactions. The Relative Importance Index (RII) analysis and mean scores, showed that surprise was the most dominant emotion, with the highest RII of 80.0% and a mean score of 4.03. This suggests that many respondents did not anticipate the pregnancy and were caught off guard, reinforcing the notion of its unintended nature. Following this, anxiety (RII = 68.8%) and shock (RII = 68.8%) were also strongly felt, indicating that emotional distress was a common reaction among the participants.

Fear emerged next in prominence (RII = 67.8%), closely aligning with feelings of anxiety and shock. This fear may reflect concerns about social judgment, economic

burden, or disruption to life plans. Confusion was also moderately reported (RII = 63.0%), suggesting uncertainty about how to respond to the pregnancy or what decisions to make next. Uncertainty (RII = 59.6%) and excitement (RII = 59.4%) were reported with similar levels of importance, but at lower intensities, suggesting that while some respondents may have experienced ambiguous or mixed feelings, outright positive emotions were relatively rare.

At the bottom of the emotional spectrum were nonchalance (RII = 55.6%) and relief (RII = 55.4%), which recorded the lowest mean scores (2.78 and 2.77, respectively). These responses were the least common, indicating that few participants were indifferent or felt positively resolved about the situation. The low scores for these variables reinforce the emotional weight and potential distress associated with unintended pregnancies for most individuals. Overall, the data underscore the psychological and emotional challenges that can accompany unintended pregnancies and point to the need for emotional and mental health support as part of comprehensive reproductive health services. The results in Table 5.7 directly addressed Objective One of the research. The diverse and often intense emotional responses particularly the high levels of surprise, anxiety, shock, and fear emphasises the significance of unintended pregnancies as not just a reproductive health issue but a multidimensional concern with psychological and social implications.

These emotional responses reflect the unpreparedness and vulnerability of individuals who experienced unintended pregnancies, indicating a gap in reproductive planning, education, and support systems. By capturing these responses as part of the broader data ecosystem, policymakers and public health planners gain a more comprehensive

understanding of the real-life impact of unintended pregnancies beyond mere incidence rates. Such insights are essential for advancing SDG 3, Target 7, which emphasizes universal access to sexual and reproductive health services. Incorporating emotional and psychosocial data into health planning ensures that reproductive health interventions are person-centered, responsive, and effective in addressing the complexities surrounding unintended pregnancies in the study area.

5.3 Multi-Variate Logistic Regression on Individual Determinants of Unintended Pregnancy

Understanding the pattern of unintended pregnancy is vital for addressing its multidimensional implications on individuals and communities. Beyond knowing how common unintended pregnancies are, analyzing patterns helps reveal the circumstances under which they occur such as age, marital status, economic conditions, access to contraception, and levels of reproductive knowledge. These insights are essential for identifying the most affected groups and the specific factors contributing to their vulnerability. Patterns also help in examining social, emotional, and psychological responses to unintended pregnancies, offering a fuller picture of their impact on women's lives, families, and society as a whole.

In order to understand pattern of unintended pregnancy both inferential statistics and spatial statistics were employed. Multinomial Logistic Regression was used to predict likelihood of unintended pregnancy based on socio-economic and demographic attribute of the respondents. This was used to address objective two of the study. Analysis of Variance (ANOVA) was used to determine the variability in the mean occurrences of unintended pregnancy among the community. Inverse Distance

Weight IDW was used to analyze the spatial distribution of unintended pregnancy in the study area using the frequency of mean frequency of women who have experienced unintended pregnancy in the communities across the study area.

5.3.1 Predictors of Unintended Pregnancy

Multinomial regression was used to test the null-hypothesis that states that “socio-economic and demographic variables does not significantly explain/predict unintended pregnancy among women of sexually reproductive age in the study area.” In the application of Multinomial Regression analysis, pregnancy intention was the dependent variable and the wanted category of the independent variable was used as the reference while socio-economic and demographic characteristics were the predicting variables.

Table 5.8 presented the model fit statistics for the multinomial logistic regression analysis examining the predictors of pregnancy intention. The model assessed whether various explanatory variables significantly predicted whether a pregnancy was wanted, mistimed, or unwanted.

Table 5.8: Multinomial Logistic Regression Model Fit Summary for Predictors of Pregnancy Intention

| Model Fitting Information | | | | Pseudo R-Square | |
|---------------------------|------------------------|---------|------|-----------------|-------|
| Model | | | | Cox and | .717 |
| Fitting | | | | Snell | |
| Criteria | Likelihood Ratio Tests | | | | |
| -2 Log | Chi- | | .842 | Nagelkerke | 0.109 |
| Model | Likelihood | Square | df | | |
| Intercept Only | 403.415 | | | McFadden | 0.052 |
| Final | 134.567 | 268.848 | 100 | | .000 |

Source: Author’s Computation, 2025.

From Table 5.8 it can be observed that the model fitting information indicated a substantial improvement in fit (see Table 5.5) when socio-economic and demographic predictors were included. The -2 Log Likelihood decreased from 403.415 in the intercept-only model to 134.567 in the final model. The corresponding likelihood ratio chi-square value was 268.848, with 100 degrees of freedom, and the result was statistically significant ($p < .001$). This demonstrated that the inclusion of predictors significantly improved the model over the intercept-only model and of such, the null hypothesis was rejected.

In terms of effect size, the Pseudo R-square statistics revealed that the model explained a meaningful portion of the variance in pregnancy intention. Specifically, the Cox and Snell R^2 was .717, indicating a strong explanatory power. Although the Nagelkerke R^2 was more modest at .109, and McFadden R^2 at .052, these values still suggested that the predictors contributed meaningfully to the model, especially in the context of multinomial logistic regression where pseudo- R^2 values are typically lower than in linear models.

These findings implied that the predictors used in the model were statistically significant contributors to explaining variation in pregnancy intentions. The high chi-square and low p-value indicated that the model reliably distinguished between women who classified their pregnancies as wanted, mistimed, or unwanted, reinforcing the importance of these variables in understanding reproductive outcomes. Table 5.9 presented parameter estimates from a multinomial logistic regression analysis that examined predictors of pregnancy intention (mistimed or unwanted, with wanted as the reference category) among women in Edo South. The predictors

included group of respondents (home vs. hospital), age, marital status, ethnicity, education level, religion, occupation, income, household size, autonomy, age at entry into marriage, and age at first birth. The table reported coefficients (B), standard errors, Wald statistics, degrees of freedom, p-values, odds ratios (Exp(B)), and 95% confidence intervals for the odds ratios.

Table 5.9: Parameter Estimates of Multinomial Logistic Regression Analysis

| Variables | Mistimed | | | | Unwanted | | | |
|-------------------------------------|----------|------------|-------|------|----------|----------|-------|------|
| | B | Exp (B) | Wald | Sig | B | Exp (B) | Wald | Sig |
| [Group of Respondents=1.00] | .621 | 1.860 | .184 | .668 | -.020 | .981 | .000 | .989 |
| [Age of Respondent2=1.00] | 6.665 | 784.223 | .033 | .855 | .274 | 1.316 | .000 | .994 |
| [Age of Respondent2=2.00] | 3.078 | 21.718 | .040 | .841 | 6.329 | 560.509 | .173 | .677 |
| [Age of Respondent2=3.00] | 5.761 | 317.676 | 2.716 | .099 | 6.902 | 993.825 | 3.531 | .060 |
| [Age of Respondent2=4.00] | 4.004 | 54.801 | 1.158 | .282 | 5.600 | 270.343 | 2.124 | .145 |
| [Age of Respondent2=5.00] | 7.229 | 1379.124 | 3.103 | .078 | 6.813 | 909.195 | 2.624 | .105 |
| [Age of Respondent2=6.00] | 11.696 | 120129.531 | 4.269 | .039 | 8.986 | 7987.491 | 2.310 | .129 |
| [Marital Status of Respondent=1.00] | -13.236 | 1.785E-6 | .088 | .767 | -1.392 | .249 | .002 | .962 |
| [Marital Status of Respondent=2.00] | -11.002 | 1.668E-5 | .061 | .806 | -3.988 | .019 | .019 | .891 |
| [Marital Status of Respondent=3.00] | -6.705 | .001 | .022 | .882 | -.211 | .810 | .000 | .994 |
| [Marital Status of Respondent=4.00] | -8.711 | .000 | .028 | .867 | 5.556 | 258.809 | .021 | .884 |
| [Ethnicity of Respondent=1.00] | 3.268 | 26.271 | .018 | .895 | 4.270 | 71.492 | .038 | .846 |

Table 5.9 Continues...

| | | | | | | | | |
|----------------------------------------|---------|--------------|-------|------|--------|-----------------|-------|------|
| [Ethnicity of Respondent=2.00] | 4.170 | 64.731 | .028 | .866 | 5.657 | 286.314 | .065 | .798 |
| [Ethnicity of Respondent=3.00] | 1.617 | 5.040 | .004 | .949 | 4.940 | 139.708 | .049 | .826 |
| [Ethnicity of Respondent=4.00] | 9.109 | 9039.602 | .135 | .713 | 9.675 | 15908.985 | .190 | .663 |
| [Ethnicity of Respondent=5.00] | -20.617 | 1.113E-9 | .266 | .606 | 3.098 | 22.159 | .019 | .890 |
| [Ethnicity of Respondent=6.00] | 2.749 | 15.620 | .012 | .912 | 4.989 | 146.756 | .051 | .821 |
| [Ethnicity of Respondent=7.00] | 8.235 | 3770.501 | .092 | .761 | 11.598 | 108870.30 7 | .236 | .627 |
| [Ethnicity of Respondent=8.00] | 13.896 | 1084240.419 | .181 | .670 | 3.371 | 29.114 | .012 | .913 |
| [Educational Level of Respondent=1.00] | -6.558 | .001 | .161 | .688 | 3.511 | 33.483 | .055 | .814 |
| [Educational Level of Respondent=2.00] | -3.497 | .030 | .145 | .703 | 5.020 | 151.391 | .299 | .585 |
| [Educational Level of Respondent=3.00] | -.850 | .428 | .452 | .501 | 1.047 | 2.849 | .750 | .387 |
| [Religion of Respondents=1.00] | 17.847 | 56338449.845 | .479 | .489 | 15.429 | 5018576.6 86 | .297 | .586 |
| [Religion of Respondents=2.00] | 18.168 | 77643870.669 | .484 | .487 | 12.135 | 186310.84 3 | .179 | .672 |
| [Occupation of the Respondent=1.00] | 10.605 | 40325.261 | 3.884 | .049 | 3.600 | 36.599 | .936 | .333 |
| [Occupation of the Respondent=2.00] | 12.132 | 185773.787 | 4.636 | .031 | 3.903 | 49.560 | .881 | .348 |
| [Occupation of the Respondent=3.00] | 9.761 | 17340.964 | 3.477 | .062 | 2.400 | 11.020 | .447 | .504 |
| [Occupation of the Respondent=4.00] | 6.404 | 604.391 | .190 | .663 | -1.959 | .141 | .018 | .895 |
| [Occupation of the Respondent=5.00] | 9.725 | 16727.804 | .724 | .395 | 13.755 | 941364.66 3 | 2.511 | .113 |
| [Income=1.00] | .416 | 1.516 | .001 | .981 | 2.801 | 16.456 | .027 | .869 |
| [Income=2.00] | 2.648 | 14.131 | 2.266 | .132 | -.730 | .482 | .144 | .704 |
| [Income=3.00] | 1.292 | 3.641 | .376 | .540 | .007 | 1.007 | .000 | .997 |
| [Income=4.00] | 4.561 | 95.636 | 3.951 | .047 | 1.033 | 2.810 | .233 | .629 |

Table 5.9 Continues...

| | | | | | | | | |
|--------------------------------------------------------------|---------|------------|-------|------|--------|--------------------|-------|------|
| [Income=5.00] | 5.797 | 329.453 | 3.278 | .070 | 3.533 | 34.224 | 1.322 | .250 |
| [Income=6.00] | 2.139 | 8.491 | 1.146 | .284 | 1.282 | 3.606 | .425 | .514 |
| [Household Size of Respondent=1.00] | 9.908 | 20094.539 | .002 | .963 | 18.775 | 142461713 .013 | .008 | .929 |
| [Household Size of Respondent=2.00] | 11.164 | 70514.119 | .003 | .959 | 19.159 | 209245170 .312 | .008 | .927 |
| [Household Size of Respondent=3.00] | 13.486 | 719534.435 | .004 | .950 | 21.828 | 301929153 6.345 | .011 | .917 |
| [Who makes the Decision on the Desired Number of Kinds=1.00] | -.829 | .437 | .011 | .915 | .038 | 1.039 | .000 | .992 |
| [Who makes the Decision on the Desired Number of Kinds=2.00] | 1.451 | 4.269 | .034 | .853 | -4.262 | .014 | .897 | .344 |
| [Who makes the Decision on the Desired Number of Kinds=3.00] | 1.785 | 5.959 | .057 | .812 | -1.343 | .261 | .128 | .720 |
| [Age of Entry into Marriage of Respondent2=1.00] | -16.909 | 4.533E-8 | .696 | .404 | -7.166 | .001 | .069 | .793 |
| [Age of Entry into Marriage of Respondent2=2.00] | -13.994 | 8.365E-7 | .688 | .407 | .564 | 1.758 | .001 | .982 |
| [Age of Entry into Marriage of Respondent2=3.00] | -21.763 | 3.536E-10 | 1.713 | .191 | -7.008 | .001 | .079 | .779 |
| [Age of Entry into Marriage of Respondent2=4.00] | -19.097 | 5.085E-9 | 1.366 | .242 | 4.013 | 55.332 | .025 | .874 |
| [Age of Entry into Marriage of Respondent2=5.00] | -13.431 | 1.469E-6 | . | . | .182 | 1.199 | .000 | .995 |
| [Age of First Birth of Respondent2=1.00] | 9.945 | 20857.397 | .170 | .680 | 5.572 | 262.852 | .057 | .811 |

Table 5.9 Continues...

| | | | | | | | | |
|------------------------------------------|-------|--------|------|------|--------|-------|------|------|
| [Age of First Birth of Respondent2=2.00] | 4.428 | 83.776 | .074 | .785 | .496 | 1.643 | .001 | .975 |
| [Age of First Birth of Respondent2=3.00] | 3.948 | 51.835 | .059 | .807 | 2.176 | 8.807 | .020 | .889 |
| [Age of First Birth of Respondent2=4.00] | 4.272 | 71.638 | .069 | .792 | -3.400 | .033 | .050 | .823 |

See Appendix 5 for complete Parameter Estimate of Multinomial Logistic Regression Analysis.

For mistimed pregnancies compared to wanted pregnancies, significant predictors included specific age categories and occupation. Women aged 45–49 years (Age of Respondent2 = 6.00) had an odds ratio of 120,129.531 (95% CI [1.825, 7,908,275,700.081], $p = .039$), indicating they were significantly more likely to have mistimed pregnancies than wanted pregnancies. Women in civil service had an odds ratio of 40,325.261 (95% CI [1.060, 1,533,868,859.213], $p = .049$), and women who are entrepreneurs had an odds ratio of 185,773.787 (95% CI [2.971, 11,616,348,809.316], $p = .031$), suggesting a higher likelihood of mistimed pregnancies. The age category 35–39 years near significance (OR = 317.676, $p = .099$), and age 40–44 years was marginally significant (OR = 1,379.124, $p = .078$). Income level of 50001-80000 was also significant (OR = 95.636, 95% CI [1.066, 8,579.842], $p = .047$). Other predictors, respondent’s categories; (OR = 1.860, $p = .668$), marital status, ethnicity, education, religion, household size, decision-making, age at marriage, and age at first birth, were not significant, with wide confidence intervals indicating imprecise estimates.

For unwanted pregnancies compared to wanted pregnancies, no predictors reached statistical significance at the conventional level ($p < .05$), though some near significance. Women aged 35–39 years had an odds ratio of 993.825 (95% CI [0.743,

1,329,264.544], $p = .060$), and those aged 40–44 years had an odds ratio of 909.195 (95% CI [0.239, 3,453,813.176], $p = .105$), suggesting a trend toward higher likelihood of unwanted pregnancies. Occupation (Occupation = 5.00) near significance (OR = 941,364.663, $p = .113$). Other predictors, such as group of respondents (OR = 0.981, $p = .989$), marital status, ethnicity, education, religion, income, household size, decision-making, age at marriage, and age at first birth, were not significant, with extremely wide confidence intervals indicating instability in estimates.

The results indicated that age and occupation were significant predictors of mistimed pregnancies, with older women and those in specific occupational categories being far more likely to experience mistimed pregnancies than wanted ones. For unwanted pregnancies, no predictors were statistically significant, though age showed trends toward significance. These findings were influenced by life stage and socio-economic factors in shaping pregnancy intentions in Edo South. Older women (e.g., 45–49 years) could experience mistimed pregnancies due to reduced fertility expectations or inconsistent contraceptive use, as suggested by prior findings (Table 5.3, where age was significant). Occupational categories likely reflected socio-economic status or work-related constraints, influencing fertility planning and leading to mistimed pregnancies among certain groups. The lack of significant predictors for unwanted pregnancies could have stemmed from the broader influence of cultural norms favoring large families (as seen in Table 4.7), which may have reduced the discriminatory power of predictors like ethnicity or religion. The wide confidence intervals and large odds ratios for some predictors suggested small sample sizes in

certain categories or correlations among variables, limiting model precision. These findings highlighted the need for targeted family planning interventions in Edo South, particularly for older women and specific occupational groups, to address mistimed pregnancies effectively.

5.3.2 Community-Level Variations in Unintended Pregnancy

Analysis of Variance (ANOVA) was employed to test the null hypothesis which states that “there is no significant variation in the mean occurrence of unintended pregnancy among communities in Edo South.” In this analysis, the communities served as the independent variable (factor), while the frequency of unintended pregnancy constituted the dependent variable. The analysis was restricted to the data collected only from women interviewed at home, as their residency within the respective communities where copies of the questionnaire were administered is more certain. In contrast, women surveyed in hospital settings may have been seeking healthcare services in locations outside their actual communities of residence. Out of the total population of respondents, 202 reported cases of unintended pregnancy from household except Igieduma and Urezen communities. The results of the descriptive statistics on unintended pregnancy are presented in tables 5.10-5.12.

Table 5.10: Descriptive Statistics of ANOVA on Unintended Pregnancy among communities in Edo South

| Community | N | Mean | Std. Deviation | Std. Error | 95% Confidence Interval for Mean | | Minimum | Maximum |
|------------|-----|--------|----------------|------------|----------------------------------|-------------|---------|---------|
| | | | | | Lower Bound | Upper Bound | | |
| | | | | | Ugbowo | 23 | | |
| Uselu | 8 | 1.625 | 1.06066 | 0.375 | 0.7383 | 2.5117 | 1 | 4 |
| Obayantor | 8 | 1.375 | 0.51755 | 0.18298 | 0.9423 | 1.8077 | 1 | 2 |
| Aduwawa | 31 | 1.0968 | 0.30054 | 0.05398 | 0.9865 | 1.207 | 1 | 2 |
| Ukpato | 2 | 1 | 0 | 0 | 1 | 1 | 1 | 1 |
| New Benin | 12 | 1.4167 | 0.66856 | 0.193 | 0.9919 | 1.8414 | 1 | 3 |
| Oghede | 10 | 1.4 | 0.69921 | 0.22111 | 0.8998 | 1.9002 | 1 | 3 |
| Okada | 7 | 1.5714 | 0.53452 | 0.20203 | 1.0771 | 2.0658 | 1 | 2 |
| Isiuwa | 6 | 1.3333 | 0.5164 | 0.21082 | 0.7914 | 1.8753 | 1 | 2 |
| Uhier | 3 | 1 | 0 | 0 | 1 | 1 | 1 | 1 |
| Iguobazuwa | 3 | 1 | 0 | 0 | 1 | 1 | 1 | 1 |
| Udo | 2 | 1 | 0 | 0 | 1 | 1 | 1 | 1 |
| Abudu | 6 | 2.1667 | 1.47196 | 0.60093 | 0.6219 | 3.7114 | 1 | 4 |
| Obagie | 3 | 1.3333 | 0.57735 | 0.33333 | -0.1009 | 2.7676 | 1 | 2 |
| Useh | 6 | 1.1667 | 0.40825 | 0.16667 | 0.7382 | 1.5951 | 1 | 2 |
| Idogbo | 8 | 1.75 | 0.70711 | 0.25 | 1.1588 | 2.3412 | 1 | 3 |
| Ehor | 3 | 1 | 0 | 0 | 1 | 1 | 1 | 1 |
| Ikpokpan | 19 | 1.3684 | 0.49559 | 0.1137 | 1.1296 | 1.6073 | 1 | 2 |
| Eyaen | 18 | 1.0556 | 0.2357 | 0.05556 | 0.9383 | 1.1728 | 1 | 2 |
| Oka | 7 | 1.4286 | 0.7868 | 0.29738 | 0.7009 | 2.1562 | 1 | 3 |
| Oghoghobi | 7 | 1.2857 | 0.48795 | 0.18443 | 0.8344 | 1.737 | 1 | 2 |
| Ologbo | 4 | 1 | 0 | 0 | 1 | 1 | 1 | 1 |
| Obaretin | 6 | 1.3333 | 0.5164 | 0.21082 | 0.7914 | 1.8753 | 1 | 2 |
| Total | 202 | 1.3564 | 0.60814 | 0.04279 | 1.2721 | 1.4408 | 1 | 4 |

Source: Author's Computation, 2025.

The descriptive statistics in Table 5.10 presented a one-way analysis of variance (ANOVA) examining the number of unintended pregnancies across 25 selected communities out of which the 23 communities reported cases of unintended

pregnancy in Edo South district. The table reported the sample size (N), mean number of unintended pregnancies, standard deviation, standard error, 95% confidence intervals for the mean, and the minimum and maximum number of unintended pregnancies for each community. The total sample size was 202 women, with an overall mean of 1.3564 unintended pregnancies (SD = 0.60814), ranging from a minimum of 1 to a maximum of 4.

Among the communities, Abudu had the highest mean number of unintended pregnancies (M = 2.1667, SD = 1.47196, n = 6), followed by Ugbowo (M = 1.6957, SD = 0.5588, n = 23) and Idogbo (M = 1.75, SD = 0.70711, n = 8). Several communities, including Ukpatu, Uhiere, Iguobazuwa, Udo, Ehor, and Ologbo, reported a mean of 1.0 (SD = 0, n ranging from 2 to 3), indicating that all women in these communities experienced exactly one unintended pregnancy. Eyaen had the lowest mean (M = 1.0556, SD = 0.2357, n = 18), followed by Aduwawa (M = 1.0968, SD = 0.30054, n = 31). The standard deviations varied, with Abudu showing the highest variability (SD = 1.47196) and several communities (e.g., Ukpatu, Uhiere) showing no variability (SD = 0). The 95% confidence intervals were generally narrow for larger samples (e.g., Aduwawa, 95% CI [0.9865, 1.207]) but wider for smaller samples (e.g., Abudu, 95% CI [0.6219, 3.7114]), reflecting varying precision in estimates.

The results indicated variation in the mean number of unintended pregnancies across communities, with some (e.g., Abudu, Ugbowo) reporting higher averages and others (e.g., Eyaen, Aduwawa) lower. The overall mean of 1.3564 suggested that, on

average, women experienced slightly more than one unintended pregnancy, with moderate variability (SD = 0.60814) across the sample.

Table 5.11 presented the results of a one-way ANOVA, which tested whether there were statistically significant differences in the number of times respondent's experienced unintended pregnancy across the various communities in Edo South.

Table 5.11: ANOVA Table of Significance

| Yes, Number of unintended pregnancy | | | | | |
|--------------------------------------------|-----------------------|-----------|--------------------|----------|-------------|
| | Sum of Squares | df | Mean Square | F | Sig. |
| Between Groups | 14.968 | 22 | .680 | 2.051 | .006 |
| Within Groups | 59.369 | 179 | .332 | | |
| Total | 74.337 | 201 | | | |

Source: Author's Computation, 2025.

The result in Table 5.11 showed that there was a statistically significant difference in unintended pregnancy experiences between the groups, $F(22, 179) = 2.051, p < .001$. This suggests that the occurrence of unintended pregnancy varied meaningfully across the different communities studied. Therefore, the null-hypothesis is rejected and alternate hypothesis accepted which stated that “there is statistically significant variations in the mean occurrence of unintended pregnancy among the communities in the study area.”

The between-group sum of squares was 14.968, with a mean square of 0.680, while the within-group sum of squares was 59.369 with a mean square of 0.332. The significance value of $p = .006$ indicates a high level of statistical significance.

These results imply that location had a significant effect on the frequency of unintended pregnancies. Possible reasons may include disparities in access to sexual

and reproductive health services, differences in educational attainment, cultural norms, or socioeconomic factors influencing contraceptive use and family planning practices in the various communities. Table 5.12 shows the ANOVA table of effect size.

Table 5.12: ANOVA Table of Effect Sizes^{a,b}

| | | Point Estimate | 95% Confidence Interval | |
|-------------------------------------|-----------------------------|----------------|-------------------------|-------|
| | | | Lower | Upper |
| Yes, Number of Unintended Pregnancy | Eta-squared | .201 | .019 | .209 |
| | Epsilon-squared | .103 | -.102 | .112 |
| | Omega-squared Fixed-effect | .103 | -.101 | .112 |
| | Omega-squared Random-effect | .005 | -.004 | .006 |

a. Eta-squared and Epsilon-squared are estimated based on the fixed-effect model.

b. Negative but less biased estimates are retained, not rounded to zero.

Source: Author's Computation, 2025.

The effect sizes in ANOVA on the number of times respondents experienced unintended pregnancy across communities in Edo South is presented in Table 5.12. These effect size measures provide insights into the strength or magnitude of the differences observed in the ANOVA. The Eta-squared (η^2) value was .201, with a 95% confidence interval ranging from .019 to .209, indicating that approximately 20.1% of the variance in the number of unintended pregnancies could be explained by community differences. This suggests a small to moderate effect size, implying that community location had a meaningful influence on the frequency of unintended pregnancies.

In contrast, both Epsilon-squared and Omega-squared (Fixed-effect) yielded much lower estimates at .103, with negative lower bounds (Epsilon-squared: -0.102; Omega-squared: -0.101), which indicate less stable or biased estimates, especially with smaller sample sizes or when group means are not highly distinct. Similarly, the Omega-squared Random-effect produced an even smaller estimate of .005, with a confidence interval from -0.004 to 0.006, suggesting a negligible random-effect influence across communities.

Inclusively, the findings suggested that while community differences had a considerable effect within the study sample, caution should be exercised when generalizing these results beyond the surveyed locations. Differences in community characteristics such as healthcare access, education, and cultural norms may be contributing factors. Factor like education was explained in the preceding section as a factor that explained unintended pregnancy (see Table 5.8).

The Tukey HSD post hoc analysis (Appendix 4), was conducted based on the ANOVA results from Tables 5.10, 5.11, and 5.12, that revealed significant differences in the mean number of unintended pregnancies across specific community pairs in Edo South. The analysis was prompted by a statistically significant ANOVA result ($F(22, 179) = 2.051, p = .006$), indicating that at least one community differed significantly from others. The Tukey test identified three pairwise comparisons with significant differences ($p < 0.05$), shedding light on geographic/spatial disparities in unintended pregnancies.

Abudu contrasted with Aduwawa: The mean number of unintended pregnancies in Abudu ($M = 2.1667, n = 6$) was significantly higher than in Aduwawa ($M = 1.0968,$

n = 31), with a mean difference of 1.0699 ($p < 0.05$). This suggests that women in Abudu experience a greater burden of unintended pregnancies compared to those in Aduwawa. The disparity may reflect differences in access to family planning services, with Abudu potentially facing greater barriers such as limited healthcare infrastructure or lower awareness, despite its rural status. The large confidence interval for Abudu (0.6219–3.7114) indicates variability, possibly due to its small sample size, but the significant difference underscores a need for targeted interventions in Abudu to address this elevated risk.

Abudu contrasted with Eyaen: Abudu also showed a significantly higher mean number of unintended pregnancies ($M = 2.1667$) compared to Eyaen ($M = 1.0556$, $n = 18$), with a mean difference of 1.1111 ($p < 0.05$). This finding further highlights Abudu's outlier status among the communities studied. Eyaen, with a narrower confidence interval (0.9383–1.1728) and lower variability, may benefit from better access to reproductive health resources or higher awareness levels, possibly due to its proximity to urban centers. The significant difference suggests that geographic or socio-economic factors unique to Abudu, such as isolation or cultural norms, may contribute to increased unintended pregnancy rates, warranting further investigation and localized support.

Ugbowo contrasted with Aduwawa: The mean number of unintended pregnancies in Ugbowo ($M = 1.6957$, $n = 23$) was significantly higher than in Aduwawa ($M = 1.0968$), with a mean difference of 0.5989 ($p < 0.05$). As an urban community with relatively better infrastructure, Ugbowo's higher rate is unexpected and may indicate challenges such as overcrowding or inconsistent contraceptive use despite service

availability. Aduwawa, with a lower mean and tighter confidence interval (0.9865–1.207), may reflect more effective family planning utilization, possibly due to its central location and access to health facilities. This contrast suggests that urban settings alone do not guarantee lower unintended pregnancy rates, pointing to the need for quality service delivery and education even in accessible areas.

These significant differences align with the broader findings of geographic/spatial disparities in unintended pregnancies across Edo South. The higher means in Abudu and Ugbowo compared to Aduwawa and Eyaen may be influenced by factors such as rural isolation (Abudu), urban population pressures (Ugbowo), and varying levels of healthcare infrastructure or cultural attitudes toward family planning. The modest effect size (Eta-squared = 0.201) from the ANOVA suggests that while community differences explain a portion of the variance, other unmeasured factors (e.g., individual behaviors, partner dynamics) also play a role. These insights contribute to the understanding of spatial inequalities and support the recommendation for community-specific interventions, such as mobile clinics in rural areas like Abudu and enhanced education in urban centers like Ugbowo, to reduce unintended pregnancies effectively.

5.4 Discussion of Findings

This research demonstrated a 36.4% prevalence of unintended pregnancies in Edo South, Nigeria. That is over one-third of the women in the sample experienced an unintended pregnancy, highlighting a significant public health concern in Edo South. High prevalence were also recorded in a research conducted by Omo-Aghoja et al. (2009) with a 32% unintended pregnancy rate among women seeking antenatal care

in Benin city clinics. The National Population Commission (NPC) & ICF International (2019) also showed that the unintended pregnancy rate was estimated at 27% with rural-urban disparities (urban: 23%; rural: 31%). A comparative demographic study spanning 35 sub-Saharan African countries revealed wide disparities in unintended pregnancy prevalence, with rates as low as 9.8% in Burkina Faso and as high as 59.5% in South Africa. Higher prevalence was notably concentrated in southern African regions and was significantly linked to factors such as adolescent age, non-use of modern contraceptives, limited education, and lower socioeconomic status (Ahinkorah et al., 2023).

It highlighted the causes of unintended pregnancies to be as a result of non-use of contraceptive due to cultural norms, myths about contraceptive side effects, economic constraint, ignorances and lack of family planning resources. Similar results were seen in a research carried out by Ayanwu & Eze, 2021; where 28% of unintended pregnancies were due to the above causes. In Ethiopia, 23% of unintended pregnancies were as a result of partner opposition, non-use of contraceptives and fear of side effects. (Habte et al., 2018). Globally, 218 million women had unmet need for modern contraceptives, leading to unintended pregnancies and unsafe abortions. (Sully et al., 2020). This portrays a botch in the universal access to reproductive health services and thus calls for large-scale investments in the family planning sector in order to achieve the SDG 3.7 goal by 2030.

The study also showed that women with only primary education recorded the highest incidence of unintended pregnancy (40.6%). A research conducted in 2009 in the same area showed women with only primary education reporting an unintended

pregnancy rate of 36% as opposed to the 23% rate among women with secondary and higher education. (Omo-Aghoja et al., 2009). Another research carried out in the South-South zone (Edo South inclusive) showed that women with only primary education had unintended pregnancy rates of about 35% in comparison with 18% from women with post-secondary education. (Aigbe & Zannu, 2012). A recent scoping review of 22 studies on unmarried female adolescents in Nigeria revealed a high prevalence of unintended pregnancy, ranging from 23.4% to 92.7%, and the key risk factor was attributed to limited education particularly at the primary level or below (Ayamolowo et al., 2024).

This research also pointed out a significant percentage of women with emotional and psychological burden. This finding was supported by the research of Abajobir & Maravilla (2017) which showed that women with unintended pregnancies had about 30% higher risk of postpartum depression which was linked to negative feelings about the child in the first year. It was also recorded that women with unintended pregnancies reported high rates of anxiety (43%), fear (38%) and depressive symptoms (25%) during antenatal visits. (Omo-Aghoja et al., 2009).

The study reported that 52.5% of married women reported unintended pregnancy in this research. A similar result was seen in survey of 402 married women in Ile-Ife, Nigeria, which revealed that over one-third (34.3%) experienced unintended pregnancies, even though contraceptive awareness was reportedly high among participants and highlighting a disconnect between knowledge and actual contraceptive use (Alex-Ojei et al., 2020). Married women in Sierra Leone who had five or more children were found to have a higher likelihood of experiencing

unintended pregnancies compared to their counterparts with fewer children (Atakro et al., 2024).

The results of this research also suggested that unintended pregnancies are recorded among women with low monthly income. This correlates with Omo-Aghoja et al (2009) who stated that unintended pregnancy rates among low income women was 38% as opposed to 20% in higher income women. Aigbe & Zannu (2012) also recorded unintended rates among low income women to be 33% and 19% in higher income women. These findings showed that low income women had less knowledge of contraceptives and higher rates of discontinuation of those contraceptives after first use and lesser antenatal visits. The findings also reveal the fear and misconceptions about the use of modern family planning methods and the side effects and this corroborates the works of Adelekan et al. (2020) who mentioned the above as prevalent barriers to the use of modern family planning methods.

Also, findings from research revealed the desire for larger family size especially by respondents from households. This substantiates the findings of Ukponahiusi (2021) that Fertility level in Nigeria generally remains high and this seems to be triggered by the preference for large family size as well as the desire for a specific sex which further increases the fertility intentions among families. This is also supportst the assertion by Akpa and Ikpotokin (2012) that opined that women with low level of education were more likely to have more children than women who had tertiary education.

5.5 Summary

This chapter examined the prevalence and determinants of unintended pregnancy in Edo South using descriptive and inferential statistics presented in Tables 5.1 to 5.11 and Figure 5.12.

Findings from Table 5.1 revealed that a significant proportion of respondents had experienced unintended pregnancy, with 36.4% indicating a previous occurrence. This highlights a high prevalence of unintended pregnancies in the study area. The findings from Figure 5.1 revealed that a majority of women held negative sentiments toward unintended pregnancies, with 51.6% perceiving them as unwanted and 39.3% as mistimed. Only 9.0% considered the pregnancies eventually wanted. This indicates a significant emotional and psychological burden, as most women experienced distress or regret regarding their unintended pregnancies. As shown in Table 5.2, the most common reason for unintended pregnancy was non-use of any contraceptive method (38.6%), followed by inconsistent use (24.8%). This suggests that contraceptive access or use remains a critical issue. Table 5.3 indicated that unintended pregnancy was highest among respondents aged 20–29 years, accounting for 48.5% of the total cases. This age group appears to be the most vulnerable, possibly due to increased sexual activity and limited access to reproductive health education or services. In Table 5.4, married women reported a higher incidence of unintended pregnancies (52.5%) compared to single and divorced women. This may be linked to unmet family planning needs within marital settings.

Table 5.5 showed that women with only primary education recorded the highest incidence of unintended pregnancy (40.6%), underscoring a potential inverse

relationship between educational attainment and unintended pregnancy. According to Table 5.6, traders and artisans were the most affected occupational group (33.7%), suggesting that informal sector workers might face barriers to reproductive health services. Table 5.7 demonstrated that unintended pregnancies were more prevalent among those with low monthly incomes (below ₦50,000), indicating a strong socioeconomic link to reproductive outcomes. As shown in Table 5.8, 43.6% of unintended pregnancies occurred during the second or subsequent pregnancy, suggesting that many women lack or discontinue contraceptive use after the first birth. Table 5.9 presented the ANOVA descriptive statistics, showing variations in the number of unintended pregnancies across communities. Abudu had the highest mean ($M = 2.17$), while several communities such as Ukpato, Uhiere, Udo, Iguobazuwa, and Ologbo had the lowest mean ($M = 1.00$), suggesting location-based differences in reproductive health access or behavior.

Table 5.10 showed a statistically significant difference in unintended pregnancy occurrences across communities ($F(21, 180) = 2.115, p < .01$), confirming that location plays a significant role in influencing pregnancy outcomes. Finally, Table 5.11 provided the effect size estimates. The Eta-squared value (.201) suggested that about 20.1% of the variance in unintended pregnancy was explained by community differences. However, smaller values from Epsilon-squared (.103) and Omega-squared (.005 to .103), some with negative lower bounds, suggested that the true effect may be modest, potentially due to sample variability or unaccounted factors.

In conclusion, the findings showed that unintended pregnancy in Edo South is both prevalent and unevenly distributed across age, marital status, education, occupation,

income level, and community location. The results underscore the need for targeted, community-specific interventions to improve access to and consistent use of family planning services, particularly among vulnerable groups such as young adults, low-income earners, and women with limited education.

CHAPTER SIX
AWARENESS, UTILIZATION, BARRIERS, AND IMPLICATIONS OF
FAMILY PLANNING

6.1 Introduction

Analysing the awareness, utilization, barriers and implications of family planning to women is essential for advancing Sustainable Development Goal (SDG) 3, which aims to ensure healthy lives and promote well-being for all. These components are critical in understanding the complex factors that shape reproductive health behaviors and decisions. Awareness indicates the level of information women have about family planning options, utilization is the actual use of contraceptive methods which can be either modern or traditional, barriers are limiting factors that prevent women from using contraceptive methods despite being aware of its availability and implication on the other hand refers to the short and long term effects of the use of family planning to the individual and society. Together, these elements influence choices around fertility regulation, birth spacing, and maternal health key priorities under SDG 3, Target 3.7, which seeks universal access to sexual and reproductive health care services.

A comprehensive analysis of awareness, utilization, barriers and implications help identify existing misconceptions, socio-cultural barriers, and informational gaps that may hinder the effective utilization of family planning services. This insight is essential in achieving objective 3, 4 and 5 which is used for designing responsive and inclusive reproductive health programs, promoting informed choices, and advancing public health goals.

Non-inferential (Contingency/Crosstabulation Table) analysis was used to present a comparative analysis of respondents' awareness, utilization, barriers, and implications of family planning across two groups; women in households and women in hospitals. The analysis examined how levels of awareness shape respondents' understanding of family planning, how patterns of utilization differ between groups, barriers limit effective uptake, and the broader implications of these dynamics for women's reproductive health attitudes and behaviors.

This analysis helps identify whether being aware translates into a high, moderate, or low level of utilization, thereby revealing gaps in knowledge and guiding targeted educational or intervention strategies. Relative Importance Index analysis which is a non-inferential statistic was used to determine the relative importance of the respondent's attitude towards the use of family planning.

6.2 Awareness of Family Planning Among Reproductive Women

Studying the awareness of women on the use of family planning is essential for assessing the extent to which women are informed about their reproductive health options. Awareness is a critical first step in empowering women to make informed decisions regarding the timing and spacing of childbirth, which directly impacts maternal and child health, economic stability, and overall quality of life. Low levels of awareness often correlate with limited use of contraceptives and higher rates of unintended pregnancies. By examining women's awareness, public health practitioners and policymakers can identify knowledge gaps, understand the reach and effectiveness of family planning education programs, and design targeted

interventions to improve access to accurate information. This contributes to the broader goal of enhancing reproductive health.

Table 6.1 shows a comparative analysis of contraceptive awareness, level of awareness, contraceptive use, and forms of contraceptives used among 1006 women in household and hospital settings in Edo South, using chi-square tests to assess differences. The table included response frequencies, percentages, chi-square values, and p-values for each variable.

Table 6.1: Comparative Analysis of Contraceptive Awareness and Use among Household and Hospital-Based Women in Edo South

| Variable | Response Type | Women in Household | | Women in Hospital | | X^2 | P-Value |
|----------------------------|---------------|--------------------|------|-------------------|-------|--------|---------|
| | | N | % | N | % | | |
| Awareness | Yes | 539 | 95.9 | 422 | 95.1 | 0.432 | 0.511 |
| | No | 23 | 4.1 | 22 | 4.9 | | |
| | Very Low | 43 | 7.7 | 13 | 2.9 | | |
| | Below Average | 70 | 12.5 | 51 | 11.5 | | |
| Level of Awareness | Average | 158 | 28.1 | 202 | 45.5 | 57.943 | <0.001 |
| | Above Average | 249 | 44.3 | 121 | 27.3 | | |
| | Very High | 42 | 7.5 | 57 | 12.8 | | |
| Contraceptive Use | Yes | 344 | 61.2 | 274 | 61.71 | 0.242 | 0.623 |
| | No | 218 | 58.8 | 170 | 38.29 | | |
| Form of Contraceptive Used | Traditional | 67 | 11.9 | 50 | 11.5 | 31.386 | <0.001 |
| | Orthodox | 184 | 32.7 | 192 | 46.8 | | |
| | Both | 93 | 16.6 | 32 | 7.2 | | |
| | None | 218 | 38.8 | 170 | 34.5 | | |

Source: Author's Computation, 2025.

Table 6.1 presented a comparative analysis of awareness and contraceptive use between women interviewed in households and those in health facilities. The results revealed a generally high level of awareness of family planning among both groups, with 96% of women in households and 95% of women in hospitals affirming

awareness. The chi-square test indicated no statistically significant difference between the two groups in terms of awareness ($\chi^2 = 0.432, p = 0.511$).

However, significant differences emerged when comparing the level of awareness between the two groups ($\chi^2 = 57.943, p < 0.001$). Women in hospitals more frequently reported "Average" (46%) and "Very High" (13%) levels of awareness compared to their household counterparts, among whom 44% reported "Above Average" and only 6% "Very High." This suggested that exposure to healthcare services improves the depth of knowledge about family planning. This study correlates a similar findings in the literature which was carried out among Igbo women in South East Nigeria where about 80 percent of the respondents were aware of family Planning but only about 25 percent use modern methods of family planning (Ikechebelu et al., 2005).

There was no significant difference in contraceptive use between the two groups of women; 61% of those from households and 60% of those from hospitals reported using contraceptives ($\chi^2 = 0.242, p = 0.623$). This suggests that while awareness of family planning may vary in depth between the groups, it does not appear to strongly influence whether or not women actually use contraceptives.

When considering the form of contraceptive used, the difference was statistically significant ($\chi^2 = 31.386, p < 0.001$). A higher proportion of hospital respondents used orthodox methods (47%) compared to household respondents (33%), while the combined use of both traditional and orthodox methods was more prevalent among household women (17%) than those in hospitals (7%). This finding could be attributed to improved access to and trust in modern medical practices among women who engage more directly with healthcare institutions.

The findings from Table 6.1 revealed striking differences in contraceptive awareness and usage patterns between women in household and hospital settings in Edo South, highlighting the transformative power of access to healthcare resources. While both groups demonstrated widespread awareness of contraceptives (95% for both groups of women of reproductive age), women in hospital group exhibited significantly higher levels of average and very high awareness ($\chi^2 = 57.943$, $p < .001$), which is influenced by structured reproductive health education and direct access to professional guidance. These women were also more likely to embrace modern, orthodox contraceptive methods (47% vs. 33% in households), reflecting the impact of exposure to accurate information and reliable healthcare services. In contrast, 17% of household women, potentially shaped by community-based cultural practices favoring large families (as evidenced in Table 4.7), leaned more toward traditional methods or a blend of traditional and orthodox approaches (17% vs. 7% in hospitals). Despite similar overall contraceptive use rates (of about 60%), the disparity in the quality of awareness and method preference highlighted a critical gap: widespread awareness did not always translate to effective contraceptive practices in community group. Comparing the level of need for modern methods (orthodox) with the set rule of thumb as stated by SDG 3.7.1 (> 75% high level of needs satisfied by modern methods and <50% low level of needs satisfied by modern methods) it can be observed that household group had 49.3% of its respondents using methods which implied that low level of needs satisfied by orthodox use of contraceptives while hospital group had 54% of its respondents using orthodox contraceptive methods which implied moderate level of needs satisfied by modern methods. These insights

align with Sustainable Development Goal 3, Target 3.7, which passionately calls for universal access to sexual and reproductive healthcare, including robust family planning education and services. To bridge this gap and empower women across Edo South, interventions must prioritize delivering comprehensive, engaging contraceptive education directly to communities, ensuring that every woman, regardless of grouping, can make informed reproductive choices with confidence and access to modern methods.

6.3 Knowledge and Attitude of the Use of Family Planning

Studying the knowledge of women on the use of family planning and their perceived negative implications are vital for understanding how beliefs, knowledge, and social influences shape reproductive health choices. Women's perceptions play a key role in determining whether they accept or reject contraceptive methods, influencing not only individual health outcomes but also broader public health indicators such as maternal mortality, population growth, and child spacing. By exploring these perceptions, researchers and health professionals can identify barriers to contraceptive use, such as misinformation, fear of side effects, or sociocultural resistance, and develop evidence-based strategies to improve access and acceptance of family planning services.

Table 6.2 presents a comparative analysis of the level of knowledge about contraceptives use and the perceived negative implications of their use among women in house (1006) and hospital group in Edo South, using chi-square tests to assess differences. The table reported frequencies, percentages, chi-square values, and p-values for each variable.

Table 6.2: Comparative Analysis of Level of Knowledge and Perceived Negative Implications of Contraceptive Use between Women in House and Hospital group in Edo South

| Variable | Response Type | Women in Household | | Women in Hospital | | X^2 | <i>P-Value</i> |
|---------------------------------|---------------|--------------------|------|-------------------|------|---------|----------------|
| | | N | % | N | % | | |
| Level of Knowledge | Very Low | 21 | 3.7 | 18 | 4.1 | 42.455 | <0.001 |
| | Low | 116 | 20.6 | 35 | 7.9 | | |
| | Average | 192 | 34.2 | 212 | 47.7 | | |
| | High | 201 | 35.8 | 141 | 31.7 | | |
| | Very High | 32 | 5.7 | 38 | 8.6 | | |
| Perceived Negative Implications | Yes | 230 | 40.9 | 131 | 29.5 | 112.253 | <0.001 |
| | No | 110 | 19.6 | 225 | 50.7 | | |
| | Not Sure | 222 | 39.5 | 88 | 19.8 | | |

Source: Author's Computation, 2025.

The findings from Table 6.2 showed a statistically significant difference in the level of knowledge between the two groups, $\chi^2(4, N = 984) = 42.455, p < .001$. A higher proportion of women in the hospital group (57%) reported having a very high and an average level of knowledge compared to those in the household group (40%). Conversely, more women in the household group (21%) reported a low level of knowledge compared to their hospital counterparts (8%). This disparity suggests that access to formal healthcare settings may enhance exposure to accurate reproductive health information.

Similarly, there was a statistically significant difference in the perception of negative implications associated with contraceptive use, $\chi^2(2, N = 984) = 112.253, p < .001$. Women in the household group were more likely to perceive negative implications (41%) or be uncertain (40%) compared to the hospital group, where 51% reported no such perception. This result implies that women receiving care in hospital settings have greater access to counseling and education that mitigates fears or misinformation about contraception.

Overall, these findings suggest that institutional exposure to healthcare services likely improves reproductive health knowledge and positively shapes perceptions about contraceptive use, aligning with the goals of SDG 3 to ensure universal access to sexual and reproductive healthcare services. To bridge this gap and advance SDG 3’s vision, Edo South must champion bold, community-based education initiatives that deliver comprehensive contraceptive knowledge and dismantle myths, empowering every woman whether in a hospital or a house to make informed choices and embrace effective family planning with confidence.

Understanding the attitude of women toward the use of family planning is crucial in promoting reproductive health, reducing unintended pregnancies, and achieving broader public health goals. Women's attitudes significantly influence their decisions to adopt or reject contraceptive methods, which in turn affects fertility rates, maternal health, and child wellbeing. Studying these attitudes provides insight into the cultural, religious, and personal beliefs that shape reproductive behavior, allowing policymakers and health practitioners to design targeted interventions that are both culturally sensitive and effective. Table 6.3 assesses women’s attitude towards family planning and how this impact their willingness to use contraceptive services.

Table 6.3: Attitude of Women on the Use of Family Planning

| Variables | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree | Mean | RII (%) |
|-----------------------------------------------------------------------------------------|-------------------|----------|---------|-------|----------------|------|---------|
| Encourage the Use of Family Planning | 31 | 58 | 216 | 393 | 308 | 3.88 | 77.60 |
| Family Planning should be only for Sexually Active Women Irrespective of Marital Status | 179 | 207 | 290 | 231 | 99 | 2.86 | 57.20 |
| Family Planning Works well for Those Using it | 13 | 64 | 417 | 375 | 137 | 3.55 | 71.00 |
| Disadvantage of the Use of Family Planning Outweighs the Advantage | 99 | 206 | 443 | 167 | 91 | 2.94 | 58.80 |

Source: Author’s Computation, 2025

Table 6.3 presented data on the attitude of women toward the use of family planning, assessed through several attitudinal statements. The responses were measured using a five-point Likert scale, and the Relative Importance Index (RII) and mean scores were reported to determine overall attitudes.

Respondents showed a generally positive attitude towards family planning, particularly in their agreement that family planning should be encouraged (Mean = 3.88; RII = 77.60%). This suggested that many women in the study area supported the promotion of family planning, likely due to increased awareness, health education efforts, and recognition of its role in managing reproductive health. There was also moderate agreement with the statement that family planning works well for those using it (Mean = 3.55; RII = 71.00%), indicating a level of confidence in the effectiveness of contraceptive methods. This may have reflected positive personal experiences or the influence of successful campaigns emphasizing the benefits of family planning. However, attitudes were more divided on whether family planning should be limited to sexually active women regardless of marital status (Mean = 2.86; RII = 57.20%) and whether the disadvantages outweigh the advantages (Mean = 2.94; RII = 58.80%). These results suggested that sociocultural norms and misconceptions still influenced perceptions, particularly regarding who should access family planning and potential side effects. In all, the findings indicated that while there was strong support for family planning use, attitudinal ambivalence remained on issues of accessibility and perceived risks, highlighting the importance of tailored communication and inclusive reproductive health education.

6.4 Spatial Accessibility of Women to Family Planning Service Facilities in Edo South

Studying the spatial accessibility of women to family planning service facilities in Edo South is crucial to understanding the multidimensional implications of unintended pregnancy in the region. This analysis helped to reveal how geographic and infrastructural factors influence women's ability to access reproductive health services. Accessibility directly affects contraceptive use, reproductive choices, and overall health outcomes, making it a vital component in addressing the root causes of unintended pregnancies and advancing Sustainable Development Goal 3, Target 7.1, which emphasizes universal access to sexual and reproductive healthcare services and family planning.

Figure 6.1 presents a spatial accessibility of women to family planning facility in Edo South, using Inverse Distance Weighted (IDW) interpolation. It illustrates the varying levels of accessibility to family planning services across different communities in the region, with color gradients representing zones of high to low accessibility in relation to road network.

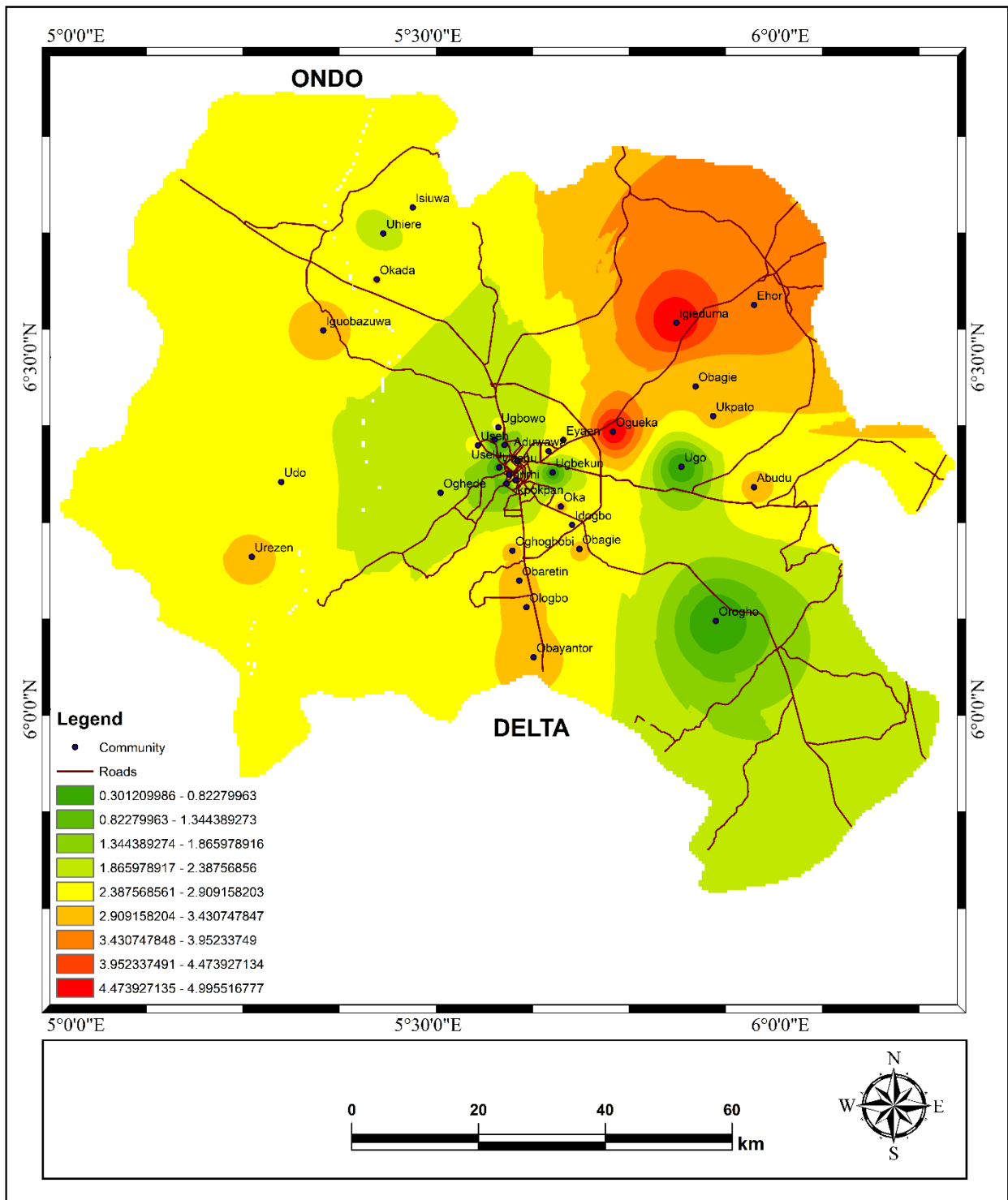


Figure 6.1: Accessibility of Women to Family Planning Service Facility in Edo South.

Source: Author's Computation, 2025.

From Figure 6.1, the Inverse Distance Weighted (IDW) analysis reveals that women's accessibility to family planning services in Edo South varies significantly across communities. The map employed a color-coded gradient, where lower values (represented by shades of green) indicated higher accessibility implying shorter distances to FPS facilities while higher values (shades of red) denoted poorer accessibility due to greater travel distances. Communities such as Uselu, Ugbowo, and Ekehuan in the central corridor exhibited the lowest impedance values, suggesting that these locations had the most efficient access to FPS. This pattern was expected, as these communities are situated within or near the urban core of Benin City, where health infrastructure is typically denser, road networks are more interconnected, and transportation options are more readily available.

In contrast, peripheral communities such as Igieduma, Ehor, Ogueka, and Urezen were marked by higher impedance values (depicted in orange and red), revealing significant spatial disadvantages in accessing FPS. These findings aligned with earlier urban studies that emphasized the centralization of reproductive health services in urban cores to the neglect of outlying rural settlements. The terrain, poor road infrastructure, and the absence of evenly distributed service centers likely contributed to this spatial disparity.

The road network in the Figure 6.1 showed a clear correlation with higher accessibility, particularly in areas close to major roads. This confirms that transport connectivity significantly influences women's access to family planning services in Edo South. The analysis highlighted a clear pattern of spatial inequality, where women in remote and rural communities have more difficulty accessing these

services. This limited access increases the risk of unintended pregnancies and unmet reproductive health needs in those areas. The result is largely influenced by the spatial distribution of healthcare facilities, the quality of road networks, and urban-rural disparities in health investments. It showed that accessibility plays a key role in shaping reproductive health outcomes, and that improving physical access through infrastructure development and mobile health outreach is essential for achieving equitable family planning coverage across Edo South.

There is a clear need for targeted interventions such as mobile clinics, community outreach programs, and the enhancement of primary healthcare centers, especially in the red and orange zones. Strengthening infrastructure and transportation in underserved areas would help reduce these disparities and support progress toward SDG 3, Target 7, which aims to ensure universal access to sexual and reproductive health services.

6.5 Spatial Variation of Unintended Pregnancy in Edo South

Understanding the spatial variation of unintended pregnancy in Edo South is crucial to addressing the complex, multidimensional nature of reproductive health challenges in the region. Unintended pregnancies not only pose serious health, social, and economic risks to women and families, but their distribution across space often reflects underlying disparities in access to health services, education, infrastructure, and cultural norms. Mapping these patterns enables targeted interventions, informed policy-making, and equitable allocation of reproductive health resources. In this context, examining spatial trends helps uncover hotspots of vulnerability and areas of relative resilience, offering vital insight into how geography intersects with socio-

demographic and healthcare variables in shaping reproductive outcomes. This spatial perspective is particularly relevant to achieving Sustainable Development Goal 3, Target 7.

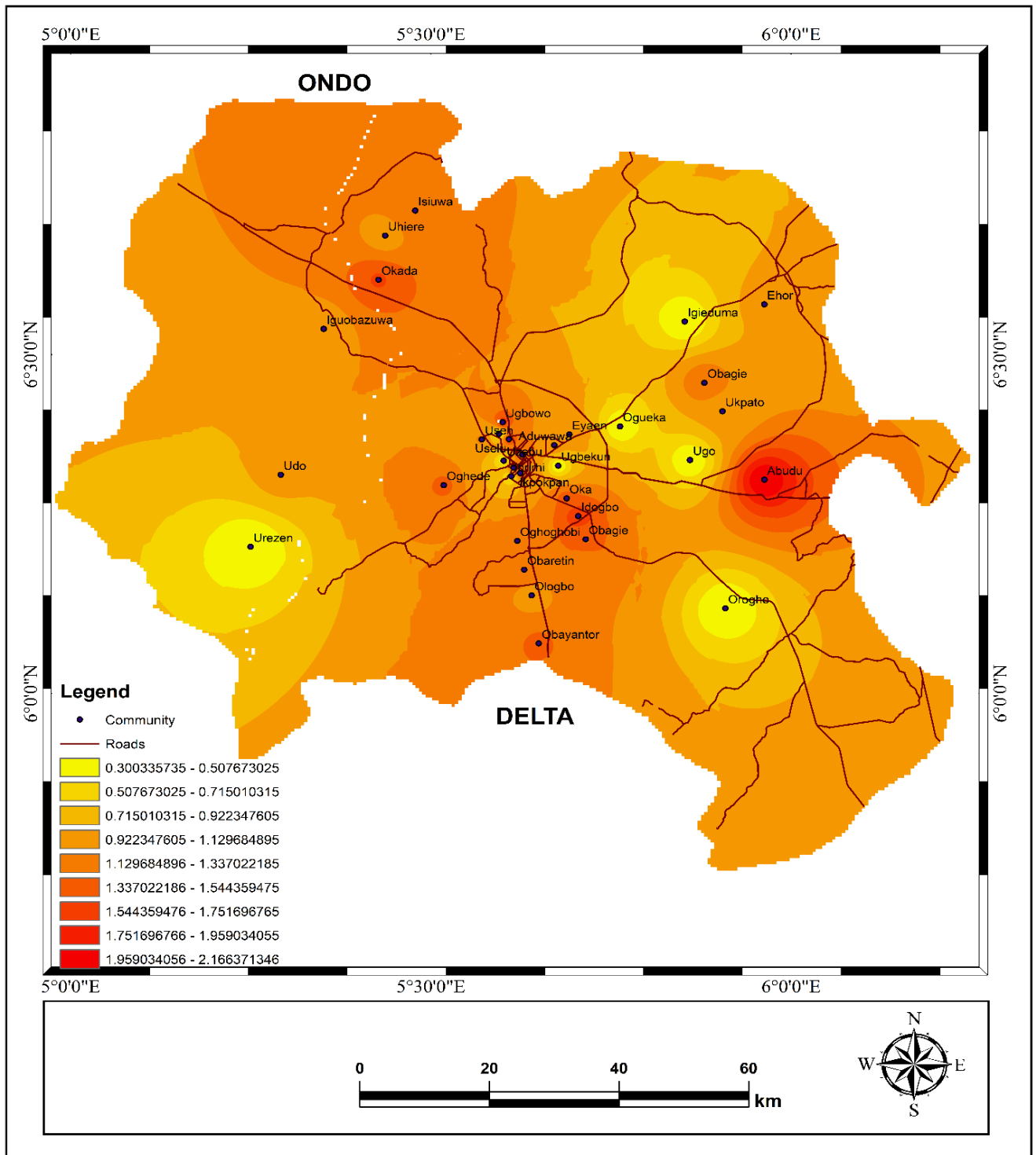


Figure 6.2: Spatial Distribution of Unintended Pregnancy in Edo South.
 Source: Author's Computation, 2025.

Figure 6.2 presented the spatial distribution of unintended pregnancy across Edo South, revealing a pronounced geographic pattern that reflected underlying disparities in reproductive health access and service uptake. The map used a graduated color scale, with lighter shades (yellow) representing lower levels of unintended pregnancy and darker shades (red) indicating higher incidences.

The spatial distribution demonstrated that communities like Abudu, Okada, Iguobazuwa, and parts of Urezen and Ugbekun experienced significantly higher levels of unintended pregnancy. These areas were marked by deeper orange to red hues, signifying elevated values in the dataset. This trend likely stemmed from a combination of limited access to family planning services, lower awareness or education levels regarding reproductive health, and cultural or systemic barriers to contraceptive use. In contrast, communities situated closer to the Benin City metropolitan core such as Ugbowo, Uselu, and Ekehuan exhibited the lowest values, indicating fewer incidences of unintended pregnancy.

The relatively lower levels observed in urban and peri-urban areas may be attributed to the concentration of healthcare infrastructure, better road networks, higher levels of education, and increased exposure to reproductive health messaging. Urban dwellers are more likely to access family planning facilities, thereby preventing unintended pregnancies. Conversely, peripheral and rural communities appeared to suffer from neglect in the distribution of these critical services. The pattern observed underscored the real-world consequences of spatial inequality in healthcare provision. It highlighted the urgent need for targeted policy interventions that bridge service gaps in under-served areas. Expanding the geographic reach of family planning programs,

enhancing mobile health delivery, and integrating reproductive health education into community structures would serve as effective countermeasures to the high rates of unintended pregnancy in these communities.

6.6 Accessibility and Utilization of Family Planning by Sexually Active Women in the Research Area

Analyzing the accessibility and utilization of family planning services by sexually active women is central to achieving SDG 3.8, which emphasizes universal health coverage, including access to essential reproductive health services. In Edo South, these two dimensions accessibility and utilization play a vital role in addressing the high rate of unintended pregnancies. Accessibility refers to the availability and ease with which women can obtain family planning services, while utilization reflects their actual use of these services. Both are shaped by socio-demographic factors, cultural and religious beliefs, perceived quality of care, and the distribution of health facilities. Limited access or low utilization often results in inconsistent or non-use of contraception, contributing to a higher incidence of unintended pregnancies. This section of the study, which aligns with objective six, offers critical insights into the real-world barriers sexually active women face in managing their reproductive health. It also identifies key gaps where policy, health education, and service delivery must be improved to enhance equitable access and ensure no one is left behind in the pursuit of SDG 3.8.

Table 6.4 presented a cross-tabulation of contraceptive use prior to pregnancy by the form of contraceptive used among women in Edo South.

Table 6.4: Cross-tabulation of Contraceptive Use prior to Pregnancy by form of Contraceptive Used in Edo South

| Use of Contraceptive Prior Pregnancy | Form Contraceptive Used | | | | Total |
|--------------------------------------|-------------------------|----------|------|------|-------|
| | Traditional | Orthodox | Both | None | |
| Yes | 117 | 376 | 125 | 0 | 618 |
| No | 0 | 0 | 0 | 388 | 388 |
| Total | 117 | 376 | 125 | 388 | 1006 |

Source: Author's Computation, 2025.

The results in Table 6.4 revealed that 61% of women used contraceptives prior to pregnancy, while 39% did not. The contraceptive prevalence rate was 50%. This was calculated by dividing the total number of women who used both orthodox and traditional contraceptives by the total number of women and multiplied by 100%. Among those who used contraceptives, 38% used orthodox methods, 12% used both traditional and orthodox methods, and 12% used traditional methods exclusively. Notably, 38% of women did not use contraceptives prior to pregnancy and were categorized in the "none" group for form of contraceptive used, indicating no overlap with other categories.

The unmet need for family planning in the study population was 39%, reflecting the proportion of women who wished to either postpone or completely avoid future pregnancies but were not using any form of contraception. This percentage was calculated from dividing the total number of women with unmet needs by the total number of women at risk of pregnancy and multiplied by 100%. A 39% unmet need indicates a considerable gap between reproductive intentions and contraceptive behavior and underscores the challenges women face in assessing family planning services which may be due to distance, cost, cultural beliefs or partner opposition.

These compelling findings illuminated a critical reality which showed that a substantial majority of women in Edo South engaged with contraceptive methods before pregnancy, with a strong preference for orthodox methods, which are typically more effective and supported by healthcare systems. The significant uptake of contraceptives (61%) emphasized a promising awareness of family planning, yet the 39% who did not use any contraception highlighted a persistent gap that demands urgent attention. The preference for orthodox methods (38%) over traditional (12%) or combined approaches (12%) suggested that many women embraced modern, evidence-based options, likely influenced by access to healthcare education or services, as seen in prior findings. However, the reliance on traditional methods by some women pointed to the enduring influence of cultural practices, which have shaped contraceptive choices.

Access to modern healthcare resources and entrenched cultural norms in Edo South played a role in influencing these findings. Women with exposure to healthcare facilities, particularly those in hospital group, likely benefited from professional guidance and access to orthodox contraceptives, driving their higher use of these methods. In contrast, the use of traditional methods or non-use among a significant minority may have reflected limited access to healthcare infrastructure or adherence to cultural beliefs favoring natural or less reliable methods, particularly in household settings. The absence of contraceptive use in 39% of women aligned with the high prevalence of unintended pregnancies (36%), suggesting that barriers such as inadequate knowledge, economic constraints, or socio-cultural pressures hindered effective family planning. These findings passionately called for bold, targeted

interventions in Edo South to expand access to modern contraceptives, enhance community-based education, and challenge cultural misconceptions, ensuring every woman could make empowered reproductive choices aligned with Sustainable Development Goal 3’s vision for universal reproductive healthcare access.

The analysis in Table 6.5 was limited to data obtained from women interviewed in their homes, as this provided greater certainty regarding their residency within the specific communities where the questionnaire was administered. The level of accessibility of family planning facility was descriptively analyzed using frequency table. See Table 6.5 for the level of accessibility to family planning service facility in the study area.

Table 6.5: Level of Accessibility to Family Planning Service Facility

| Level of Accessibility (Distance) | Frequency | Percent | Mean |
|-----------------------------------|-----------|---------|------|
| Very Low | 29 | 5.2% | 2.03 |
| Low | 502 | 89.3% | |
| Average | 18 | 3.2% | |
| High | 11 | 2.0% | |
| Very High | 2 | 0.4% | |
| Total | 562 | 100.0 | |

Source: Author’s Computation, 2025.

Table 6.5 reported frequencies, percentages, and a mean accessibility score in terms of their perceived distance to the nearest family planning facility in their community. The results revealed that the vast majority of women (89%) reported low accessibility, followed by 5% with very low accessibility, 3 % with average accessibility, 2% with high accessibility, and only 1% with very high accessibility. The mean accessibility score was 2.03, indicating that, on average, accessibility was slightly above low on the distance-based scale used.

These findings revealed a compelling yet concerning picture of family planning access in Edo South's household group, igniting an urgent call to action. The overwhelming prevalence of low accessibility (89%) suggested that most women faced significant distance-related barriers to reaching family planning services facility. The minimal representation of high (2%) and very high (1%) accessibility underscored a critical gap in seamless access, while the 5% with very low accessibility highlighted particularly vulnerable groups. The mean score of 2.03, leaning toward low accessibility, emphasized that distance remained a formidable obstacle for household women, likely contributing to the high prevalence of unintended pregnancies (36.4%, Table 5.1).

A possible reason for these results was the geographic and infrastructural disparities faced by women in household settings in Edo South. Unlike hospital-based women, who likely benefited from proximity to healthcare facilities and professional guidance, household women, particularly in rural or underserved communities may have encountered significant physical barriers, such as long distances to clinics. Cultural norms favoring large families or economic constraints could have further discouraged women from overcoming these barriers to access services. The low mean accessibility score suggested that family planning facilities were not sufficiently distributed or accessible to household women, reinforcing findings from Table 6.2 about lower contraceptive knowledge in this group. These results passionately aligned with Sustainable Development Goal 3, Target 3.7, which calls for universal access to reproductive healthcare. To bridge this gap, Edo South needed bold interventions mobile clinics, community-based health outreach, and culturally tailored education to

dismantle distance barriers and empower every woman with equitable access to family planning, ensuring confident and informed reproductive choices.

The result from Table 6.6 gave a general view of the level of accessibility in the study area but does not answer the question of if the level of accessibility is same across the study area. In order to provide answer to this question, the Kruskal-Wallis test was used for statistical difference in the median of the level of accessibility among the selected communities and the statistical difference in the median of the level of accessibility among the selected community in the study area. Table 6.6 shows the Kruskal-Wallis Test Ranks.

Table 6.6: Kruskal-Wallis Test Ranks

| Name of Community | N | Mean Rank |
|-------------------|------------|-----------|
| Ugbowo | 62 | 294.43 |
| Uselu | 28 | 280.50 |
| Obayantor | 21 | 293.57 |
| Aduwawa | 41 | 318.55 |
| Ukpato | 10 | 307.95 |
| New Benin | 41 | 287.15 |
| Oghede | 35 | 219.50 |
| Okada | 24 | 269.21 |
| Isiuwa | 11 | 256.36 |
| Uhiere | 6 | 192.00 |
| Iguobazuwa | 24 | 280.50 |
| Udo | 10 | 253.95 |
| Urezen | 7 | 280.50 |
| Abudu | 24 | 280.50 |
| Obagie | 11 | 280.50 |
| Useh | 21 | 280.50 |
| Idogbo | 16 | 247.88 |
| Igieduma | 5 | 280.50 |
| Ehor | 11 | 280.50 |
| Ikpokpan | 50 | 275.26 |
| Eyaen | 39 | 313.83 |
| Oka | 17 | 264.88 |
| Oghoghobi | 18 | 280.50 |
| Ologbo | 14 | 280.50 |
| Obaretin | 16 | 313.91 |
| Total | 562 | |

Source: Author's Computation, 2025.

From Table 6.6 it can be observed that Aduwawa had the highest mean rank (318.55), followed closely by Obaretin (313.91) and Eyaen (313.83), indicating relatively better accessibility to family planning services. In contrast, Uhiere had the lowest mean rank

(192.00), followed by Oghede (219.50) and Idogbo (247.88), suggesting poorer accessibility. Other communities, such as Ugbowo (294.43), New Benin (287.15), and Ikpokpan (275.26), showed moderate ranks, while several communities (e.g., Uselu, Iguobazuwa, Abudu) had identical mean ranks (280.50), indicating similar accessibility levels.

These findings showed a compelling picture of uneven access to family planning services across Edo South’s communities, appealing for a call for targeted action. The higher mean ranks in communities like Aduwawa, Obaretin, and Eyaen suggested that women in these areas enjoyed relatively better access to family planning facilities, potentially reducing their risk of unintended pregnancies. Conversely, the lower ranks in Uhiere and Oghede highlighted significant barriers, likely contributing to higher rates of unintended pregnancies. The clustering of multiple communities at a mean rank of 280.50 suggested a baseline level of accessibility for many areas, but the variation across communities underscored disparities that demand attention. Table 6.7 shows the Kruskal-Wallis Test Statistics.

Table 6.7: Kruskal-Wallis Test Statistics^{a,b}

| Level of Accessibility to Family Planning Service Facility | |
|----------------------------------------------------------------------------|--------|
| Kruskal-Wallis H | 47.715 |
| df | 24 |
| Asymp. Sig. | .003 |
| a. Kruskal Wallis Test Kruskal-Wallis Test Statistics^{a,b} | |
| b. Grouping Variable: Name of Community | |

Source: Author’s Computation, 2025.

As shown in Table 6.7, a Kruskal-Wallis H test was conducted to determine whether there were statistically significant differences in the level of accessibility to family planning service facilities across various communities in the study area. The result

revealed a statistically significant difference, $\chi^2(24) = 47.715, p = .003$. Therefore, the null-hypothesis is rejected and alternate hypothesis accepted. This finding indicated that community of residence had a significant influence on the perceived accessibility to family planning services. In other words, the level of access to these services varied meaningfully from one community to another. The significance of this result can be attributed to geographic disparities, infrastructural differences, and health system inequalities across the communities. For example, urban centers have more established health facilities and transportation systems, while rural or peri-urban areas suffer from health facility shortages, distance barriers, or fewer service providers. The outcome supports the notion that location plays a critical role in determining accessibility to reproductive health services, which can, in turn, affect family planning utilization and the occurrence of unintended pregnancies.

Table 6.8 presented a comparative analysis of the factors (socio-demography, availability of health facility and cost to use) influencing the choice of family planning method used among women in household and hospital groups in Edo South, using chi-square tests to assess if there is statistically significant differences between both groups.

Table 6.8: Comparative Analysis of Factors Influencing the Choice of Family Planning used among Women in Household and Hospital Groups in Edo South

| Variable | Group | Responses | | X ² | Value Contingency Coefficient | Asymptotic Significance (2-sided Contingency Coefficient) | |
|--------------------------------------------------------------|--------------------|-----------|-----|----------------|-------------------------------|-----------------------------------------------------------|-------------------------|
| | | Yes | No | | | X ² | Contingency Coefficient |
| Socio-Demography Influenced the Method Used | Women in Household | 105 | 239 | 2.748 | 0.067 | 0.097 | 0.097 |
| | Women in Hospital | 64 | 198 | | | | |
| Availability of Health Facility Influenced the Method of use | Women in Household | 35 | 309 | 2.035 | 0.058 | 0.154 | 0.154 |
| | Women in Hospital | 18 | 244 | | | | |
| Cost influenced the Method Used | Women in Household | 23 | 320 | 3.87 | 0.080 | 0.049 | 0.049 |
| | Women in Hospital | 8 | 249 | | | | |

Source: Author's Computation, 2025.

The findings from Table 6.8 revealed subtle but important dynamics that shaped contraceptive decision-making in both groups. For socio-demographic influence, 31% of household women and 24% of hospital women reported that socio-demographic factors influenced their choice of family planning method, with $\chi^2(1) = 2.748$, $p = .067$, indicating no statistically significant difference at $p > .05$. The contingency coefficient was 0.067, suggesting a weak association. For health facility influence, 10% of household women and 7% of hospital women reported influence from health facilities, with $\chi^2(1) = 2.035$, $p = .058$, also indicating no significant difference. The contingency coefficient was 0.058, reflecting a minimal association. For cost influence, 7% of household women and 3% of hospital women reported that cost influenced their method choice, with $\chi^2(1) = 3.87$, $p = .080$, indicating a statistically significant difference. The contingency coefficient was 0.080, suggesting a weak but notable association. Thus, the null hypothesis in accepted in both cases of socio-demographic influence and availability of health facility influence but was rejected in the case of cost for family planning method.

These findings showed a compelling narrative about the subtle factors shaping family planning choices in Edo South, urging immediate action to address disparities. The significant influence of cost on household women's choices ($p = .049$) revealed a critical barrier, with more household women (7%) than hospital women (3%) citing cost as a determinant, which is likely driving reliance on less effective or traditional methods (as seen in Table 6.4, where 12% used traditional methods). The significant role of cost among household women likely reflected their limited financial resources and reduced access to subsidized or free modern contraceptives, which hospital-based women more readily accessed through healthcare facilities (as supported by Table 6.2's higher knowledge among hospital women). The lack of significant differences in socio-demographic and health facility influences suggested that these factors played a relatively uniform role across both groups, with only a quarter to a third of women citing socio-demographic factors and fewer than 10% citing health facilities. This uniformity highlighted a broader challenge. While access to family planning services was widespread, the specific factors guiding method choice were not strongly differentiated by setting, except for cost, which disproportionately impacted household women.

Frequency distribution analysis was employed to summarize and describe the pattern of family planning method use across different age groups, with methods categorized as none, traditional, or modern. This descriptive analysis provided an overview of how family planning method choices vary by age, helping to identify visible patterns in usage. Table 6.9 presented the distribution of family planning methods by age cohort, categorized into three groups. None, Traditional, and Orthodox methods.

Table 6.9 Distribution of Family Planning Methods by Age Cohort (None, Traditional, and Orthodox Methods)

| Method of Family Planning Used | Age Group | N | % | Mean | Median |
|--------------------------------|-----------|-----|------|------|--------|
| None | 15-19 | 13 | 3.5 | 3.95 | 4 |
| | 20-24 | 68 | 17.4 | | |
| | 25-29 | 67 | 17.3 | | |
| | 30-34 | 102 | 26.3 | | |
| | 35-39 | 72 | 18.5 | | |
| | 40-44 | 46 | 11.8 | | |
| | 45-49 | 20 | 5.2 | | |
| | Total | 388 | 100 | | |
| Traditional | 15-19 | 0 | 0.0 | 4.56 | 4 |
| | 20-24 | 17 | 7.1 | | |
| | 25-29 | 43 | 18.1 | | |
| | 30-34 | 60 | 25.2 | | |
| | 35-39 | 52 | 21.9 | | |
| | 40-44 | 41 | 17.2 | | |
| | 45-49 | 25 | 10.5 | | |
| | Total | 238 | 100 | | |
| Orthodox | 15-19 | 2 | 0.4 | 4.42 | 4 |
| | 20-24 | 44 | 8.7 | | |
| | 25-29 | 108 | 21.5 | | |
| | 30-34 | 104 | 20.7 | | |
| | 35-39 | 111 | 22.1 | | |
| | 40-44 | 99 | 19.7 | | |
| | 45-49 | 35 | 6.9 | | |
| | Total | 503 | 100 | | |

Source: Author's Computation, 2025.

Table 6.9 showed that, for women who did not use any form of family planning, the median age cohort was group 4 (ages 30–34). This suggests that women in their early thirties were most likely to report non-use of family planning. This trend may reflect a transitional stage in reproductive life when women may already have had one or more children and may not feel immediate pressure to limit or space births, especially if influenced by cultural or partner-related factors. In the case of traditional methods, the median age group was also group 4 (ages 30–34), with the highest proportion of

users also concentrated in the same age range (25%). This implies that women in their thirties were more inclined to adopt traditional methods, possibly due to greater exposure to cultural practices or mistrust of modern contraceptives. This age group may be balancing traditional beliefs with increased reproductive experience and awareness. Conversely, orthodox (modern) methods also showed a median usage in age group 4 (30–34 years), though the method was more evenly distributed across slightly younger and older groups as well. Notably, the highest users of orthodox contraceptives were in age group 5 (35–39 years) at 22%, closely followed by age group 3 (25–29 years) and age group 4 (30–34 years), indicating broader acceptance and use of modern methods among women in their late twenties to late thirties.

The dominance of age group 4 (30–34) as the median across all methods underscores its critical role in family planning dynamics. Women in this age cohort are typically at the midpoint of their reproductive years, with both the motivation and awareness to engage in fertility control. This age range likely reflects a period where family size is being actively managed, economic pressures become more apparent, and health-related awareness is heightened. The widespread use of orthodox methods among this group also aligns with global health initiatives under SDG 3.7 and SDG 3.8, which advocate for universal access to reproductive health services and informed contraceptive choice. The moderate reliance on traditional methods suggests that, despite increased access, cultural and informational gaps still influence method selection. Overall, Table 6.9 highlights the strategic importance of targeting reproductive health education and services toward women in their late twenties to

mid-thirties to effectively reduce unintended pregnancies and improve maternal outcomes in Edo South.

6.7 Constraints to Family Planning Services in the Study Area

Studying the constraints to family planning services is essential for understanding the barriers that hinder women's ability to make informed reproductive choices. These constraints ranging from limited access, high costs of services, inadequate health infrastructure, cultural and religious stigmatization, to fear of side effects can significantly affect the uptake and consistent use of contraceptive methods. Identifying and analyzing these barriers helps policymakers, health professionals, and development partners to design targeted interventions that promote equitable access, improve service delivery, and ultimately contribute to better reproductive health outcomes. In the context of reducing unintended pregnancies and achieving Sustainable Development Goal 3.7, addressing these constraints is not only relevant but necessary. The goal of this section is to address objective seven of the study.

Table 6.10 presented a comparative analysis of constraints to accessing family planning services among women in household and hospital groups in Edo South, detailing response frequencies across five levels (1 = very low to 5 = very high), weighted sums, and weighted averages for 13 constraints. These averages reflect the level of severity of each constraint on a 5-point Likert scale, with higher values indicating stronger perceived barriers.

Table 6.10: Comparative analysis of the Constraint to Family Planning Services between women in the Household and Hospital Group in the Research Area

| Variables | Women in Household | | | | | | | Women in Hospital | | | | | | |
|----------------------------------------------------------------------------------------------------|--------------------|-----|-----|-----|----|-----------------|------------------|-------------------|-----|-----|-----|----|-----------------|------------------|
| | 1 | 2 | 3 | 4 | 5 | Weight Assigned | Weighted Average | 1 | 2 | 3 | 4 | 5 | Weight Assigned | Weighted Average |
| Constraint to Inadequate Information about Improved Sexual and Reproductive Health Services | 5 | 5 | 7 | 138 | 63 | 903 | 4.14 | 4 | 2 | 7 | 97 | 60 | 717 | 4.22 |
| Behavioural Constraint of the Improved Sexual and Reproductive Health Services Providers | 5 | 208 | 2 | 1 | 2 | 441 | 2.02 | 4 | 159 | 2 | 1 | 4 | 352 | 2.07 |
| Judgmental Attitude Constraint of the Improved Sexual and Reproductive Health Services Providers | 5 | 206 | 2 | 1 | 4 | 447 | 2.05 | 5 | 162 | 2 | 1 | 0 | 339 | 1.99 |
| Breaking of Privacy Constraint of the Improved Sexual and Reproductive Health Services Providers | 7 | 210 | 1 | 0 | 0 | 430 | 1.97 | 5 | 163 | 1 | 1 | 0 | 338 | 1.99 |
| Incompetency Constraint of the Improved Sexual and Reproductive Health Services Providers | 5 | 209 | 1 | 0 | 3 | 441 | 2.02 | 5 | 164 | 1 | 0 | 0 | 336 | 1.98 |
| Drugs/Medical Supply Constraint by Improved Sexual and Reproductive Health Services Providers | 7 | 3 | 1 | 206 | 1 | 845 | 3.88 | 5 | 2 | 1 | 162 | 0 | 660 | 3.88 |
| Cultural, Social, and Religious Stigmatization Constraint Faced by Women with Unwanted Pregnancy | 7 | 3 | 198 | 1 | 9 | 656 | 3.01 | 5 | 2 | 1 | 162 | 0 | 660 | 3.88 |
| Bad Road Constraint in Accessing Health Facilities by Women with Unwanted Pregnancy | 9 | 207 | 1 | 0 | 1 | 431 | 1.98 | 5 | 164 | 1 | 0 | 0 | 336 | 1.98 |
| Distance Constraint to Health Facilities by Women with Unwanted Pregnancy | 9 | 3 | 197 | 0 | 9 | 651 | 2.99 | 5 | 2 | 161 | 0 | 2 | 502 | 2.95 |
| Transportation Constraint to Health Facilities by Women with Unwanted Pregnancy | 9 | 207 | 2 | 0 | 0 | 429 | 1.97 | 5 | 164 | 1 | 0 | 0 | 336 | 1.98 |
| High-Cost Constraint in Accessing Health Facilities by Women with Unwanted Pregnancy | 9 | 3 | 204 | 0 | 2 | 637 | 2.92 | 5 | 2 | 163 | 0 | 0 | 498 | 2.93 |
| No-Money Constraint in Accessing Health Facilities by Women with Unwanted Pregnancy | 9 | 207 | 1 | 1 | 0 | 430 | 1.97 | 6 | 163 | 1 | 0 | 0 | 335 | 1.97 |
| Lack of Partner Support Constraint in Accessing Health Facilities by Women with Unwanted Pregnancy | 8 | 3 | 2 | 200 | 5 | 845 | 3.88 | 6 | 2 | 2 | 155 | 5 | 661 | 3.89 |

Source: Author's Computation, 2025

As shown in Table 6.10, among both household and hospital groups, inadequate information about improved sexual and reproductive health (SRH) services emerged

as a critical constraint. Women in hospital settings reported the highest weighted average ($M = 4.22$), closely followed by those in the household group ($M = 4.14$). This consistent finding underscores the pervasive gap in effective communication and health education on modern family planning options, even within formal healthcare environments. It suggests that despite physical access to facilities, informational access remains severely limited. A finding that directly contradicts assumptions that clinical settings guarantee comprehensive SRH education as seen in Table 5.12. Similarly, the lack of partner support posed a significant constraint for both groups, with nearly identical weighted averages: 3.88 for household and 3.89 for hospital respondents. This striking alignment reflects the power of interpersonal dynamics and partner influence on contraceptive decision-making, a well-documented barrier in reproductive health literature (Adebowale et al., 2014). It highlights the urgent need to engage men in family planning discourse and intervention, particularly in patriarchal contexts such as Edo South.

Other notable constraints included cultural, social, and religious stigmatization ($M = 3.01$ for household; $M = 3.88$ for hospital) and unavailability of drugs and medical supplies ($M = 3.88$ for both groups). The uniformity of these responses suggests that stigma and supply-side challenges are systemic, transcending location or service delivery model. This points to a broader structural deficiency in the healthcare system and community norms that perpetuate fear, misinformation, and poor service delivery. On the other hand, constraints related to provider behavior such as judgmental attitudes, privacy breaches, and incompetency received consistently low weighted averages across both groups (ranging from 1.97 to 2.07). This indicated either a lower

frequency of direct provider mistreatment, or a possible underreporting due to normalization of poor service behavior or reluctance to criticize health workers. Nonetheless, their relatively low severity scores suggest that structural and relational factors outweighed interpersonal provider-level barriers. This conforms to the study by Adelekan et al. (2020) who identified several barriers to family planning uptake in Nigeria, including limited education, desire for more children, partner disapproval, religious and cultural beliefs, and logistical issues like cost and difficulty accessing services. These factors have also contributed to the low contraceptive prevalence rate and high unmet need for family planning services.

For women who reported using no form of contraception, the highest representation was observed among those in their early to mid-thirties, followed by those in their late twenties and late thirties. This trend reflected varying reproductive intentions, with some women in these age groups either actively seeking pregnancy, experiencing less concern about unintended pregnancy, or possibly lacking access or motivation to adopt a method. Several respondents offered personal reasons for non-use. For instance, a participant from Ugbowo (Ugbowo-1) stated, *"I am too young; I can't be using family planning."* This reflected a belief among some younger women that contraceptive use was inappropriate or unnecessary at their age. Similarly, another respondent from New Benin (New Benin-3) noted, *"I'm looking for children,"* which suggested intentional efforts to conceive, making contraception irrelevant for her reproductive goals.

Health concerns also influenced attitudes. A respondent from Aduwawa (Aduwawa-4) explained, *"I stopped using it because of the negative effects such as bleeding and*

irregular menstruation." Such side effects, whether experienced directly or heard about through peers, contributed to hesitation or discontinuation of use. Additionally, a woman from Iguobazuwa (Iguobazuwa-2) simply said, "*I'm not interested,*" pointing to a general lack of motivation or perceived need for family planning.

Traditional method use was most common among women aged 30–39. This might have stemmed from cultural norms, partner preferences, or mistrust of modern methods. Older women may also have relied on traditional methods due to prior familiarity or beliefs about fewer side effects.

In contrast, orthodox contraceptive methods were predominantly used by women aged 25–44, with the highest usage seen among those in their late twenties and thirties. This pattern suggested a greater acceptance of modern methods during peak reproductive years, likely due to increased awareness, health facility interaction, and a desire for effective family planning. Younger women (15–24) showed limited use of any contraceptive method, particularly modern ones, which may have been due to limited sexual autonomy, social stigma, or lack of access to reproductive health services.

The observed differences across age cohorts emphasized the need for age-sensitive family planning programs that recognize the unique barriers and motivations influencing contraceptive choices at different life stages.

6.8 Effect of Unintended Pregnancy on the Wellbeing of Women and Child Developmental Stages

Understanding the effect of unintended pregnancy on the wellbeing of women and children, particularly adolescents, is central to addressing the multidimensional implications of its prevalence and determinants in Edo South. Unintended pregnancies

often result in adverse health, social, economic, and psychological outcomes, especially among young women and their offspring. For adolescents, these outcomes may include school dropout, limited future opportunities, and heightened vulnerability to poverty and poor health. For women, unintended pregnancies can lead to maternal complications, mental health challenges, and increased financial strain. Studying these effects is therefore critical for developing targeted interventions and informing reproductive health policies that can improve maternal and child health outcomes, reduce inequalities, and support the attainment of Sustainable Development Goal 3, particularly Target 3.7 on universal access to sexual and reproductive healthcare services.

In this section, the analysis was carried out to determine if there were negative effects of unintended pregnancy, cases of consequences of unintended pregnancy experienced and the extent to which unintended pregnancy affect women and adolescents. Frequency distribution was used to analyze if there were negative effects of unintended pregnancy and the extent to which unintended pregnancy affect women and adolescents while Lambda analysis was used to measure the strength of association between experience of the consequences of unintended pregnancy and type of consequence experienced. It was also used to determine how much knowing one variable helps in predicting the other.

Table 6.11 showed the frequency distribution, mean, median and mode of the existence of negative effect of unintended pregnancy in the study area.

Table 6.11: Existence of Negative Effect of Unintended Pregnancy in Edo South

| Response | Frequency | Percent | Mean | Median | Mode |
|-----------------|------------------|----------------|-------------|---------------|-------------|
| Yes | 347 | 34.5 | | | |
| No | 349 | 34.7 | | | |
| Not Sure | 310 | 30.8 | 1.96 | 2.00 | 2.00 |
| Total | 1006 | 100.0 | | | |

Source: Author's Computation, 2025.

Table 6.11 examined respondents' views on the existence of negative effects of unintended pregnancy within the study area. The result showed that a considerable proportion of participants affirmed that unintended pregnancies had negative implications, as reflected in a mean of 1.96, with a median and mode of 2.00. This suggests that the central tendency of responses leaned toward agreement on the presence of negative effects. The perception of these negative effects was been influenced by lived experiences or observations of outcomes such as disrupted education, financial hardship, stigma, or health complications associated with unintended pregnancies. The findings suggested that perceptions were shaped by a combination of cultural norms, access to information, socioeconomic factors, and personal experiences. The acknowledgment of such effects supports the broader understanding of the multidimensional consequences of unintended pregnancy in Edo South and reinforces the need for effective reproductive health interventions.

Table 6.12 explored distribution of women who have experienced the negative effect of unintended pregnancy among women in households and hospitals group.

Table 6.12: Distribution of the Negative Effects of Unintended Pregnancy among Women in Households and Hospitals

| Group | Experienced Negative Effect of Unintended Pregnancy | | Total |
|--------------------|-----------------------------------------------------|------------|-------------|
| | Yes | No | |
| Women in Household | 123 | 439 | 562 |
| Women in Hospital | 64 | 380 | 444 |
| Total | 187 | 819 | 1006 |

Source: Author's Computation, 2025.

Table 6.12 presents a cross-tabulation of reported negative effects associated with unintended pregnancy among women from household and hospital settings in Edo South. The findings indicate that 22% of women in the household group and 14% in the hospital group reported experiencing adverse consequences, whereas 78% and 86%, respectively, did not report such effects. Overall, 19% of respondents across both groups experienced negative outcomes, with a notably higher incidence among women in the household setting compared to those in hospital care.

These findings begged for a clarion call to action, vividly highlighting the disproportionate burden of unintended pregnancy's negative effects on women in household settings and underscoring an urgent need to address this inequity. The stark contrast 21.9% of household women versus 14.4% of hospital women experiencing negative effects suggested that household women faced greater challenges, potentially linked to emotional, social, or economic consequences of unintended pregnancies (Table 5.1, 36.4% prevalence). Also, higher prevalence of negative effects among household women also aligned with the reliance on traditional or no contraceptive methods (Table 7.1), increasing the risk of unintended pregnancies and their consequences. The lower prevalence among hospital women pointed to protective factors within healthcare settings, spurring the case for expanding access to

reproductive health resources. This disparity passionately aligned with Sustainable Development Goal 3, Target 3.7, which champions universal access to reproductive healthcare to mitigate such adverse outcomes, urging immediate, transformative interventions to empower all women in Edo South.

The perceptions of the 187 women who reported experiencing negative effects of unintended pregnancy were analyzed to determine the extent of those effects. Table 6.13 presents a comparative analysis of how women in household and hospital groups perceive the negative effects of unintended pregnancy across multiple dimensions, including health, economic, and psychosocial outcomes.

Table 6.13: Comparative Perceptions of Unintended Pregnancy Effects among Women in Household and Hospital Groups

| Variables | Response | Group | | Total |
|-------------------------|----------|--------------------|-------------------|-------|
| | | Women in Household | Women in Hospital | |
| Unsafe Abortion | Low | 13 | 9 | 22 |
| | Average | 3 | 2 | 5 |
| | High | 107 | 53 | 160 |
| Maternal Mortality | Low | 5 | 9 | 14 |
| | Average | 97 | 51 | 148 |
| | High | 21 | 4 | 25 |
| Morbidity | Low | 8 | 9 | 17 |
| | Average | 113 | 54 | 167 |
| | High | 2 | 1 | 3 |
| Child Malnutrition | Low | 114 | 63 | 177 |
| | Average | 1 | 0 | 1 |
| | High | 8 | 1 | 9 |
| Mental Stress | Low | 5 | 9 | 14 |
| | Average | 24 | 0 | 24 |
| | High | 94 | 55 | 149 |
| Easy Transfer of AIDS | Low | 12 | 5 | 17 |
| | Average | 110 | 55 | 165 |
| | High | 1 | 4 | 5 |
| Reduced Quality of Life | Low | 4 | 6 | 10 |
| | Average | 16 | 1 | 17 |
| | High | 103 | 57 | 160 |
| Economic Insecurity | Low | 2 | 3 | 5 |
| | Average | 4 | 3 | 7 |
| | High | 117 | 58 | 175 |

Source: Author's Computation, 2025.

From Table 6.13, it can be observed that, unsafe abortion 87% of household women and 83% of hospital women perceived a high effect, with only 11% and 14% reporting low, respectively. Maternal mortality was perceived as average by 79% of household women and 80% of hospital women, though 17% of household women rated it high compared to 6% of hospital women. Morbidity was predominantly average for both groups (92%, n = 113 household; 84% hospital), with minimal high perceptions (2%

household; 2% hospital). Child malnutrition was perceived as low by 93% of household women and 98% of hospital women, with high perceptions rare (7% household; 2% hospital). Mental stress was rated high by 76% of household women and 86% of hospital women, with average perceptions more common among household women (20%) than hospital women (0%). Easy transfer of AIDS was perceived as average by 89% of household women and 86% of hospital women, with high perceptions minimal (1% in household; 6% in hospital). Reduced quality of life was rated high by 84% of household women and 89% of hospital women, with average perceptions more frequent among household women (13%) than hospital women (2%). Economic insecurity was perceived as high by 95% of household women and 91% of hospital women, with low or average responses rare in both groups.

These findings call for action, vividly showing the profound concerns women in Edo South held about unintended pregnancy's devastating effects, particularly unsafe abortion, mental stress, reduced quality of life, and economic insecurity, which were overwhelmingly perceived as high-impact by both groups. The striking similarity in high perceptions across household and hospital women underscored a universal recognition of these risks, yet subtle differences such as household women's higher average perceptions of maternal mortality and mental stress highlighted unique vulnerabilities that demanded targeted interventions. This alignment of concerns resonated with Sustainable Development Goal 3, Target 3.7, urging universal access to reproductive healthcare to mitigate these effects, compelling Edo South to act swiftly to empower women and safeguard their well-being. Also, these findings make

a compelling case for the urgent scaling up of integrated sexual and reproductive health education, safe abortion access, mental health support, and economic empowerment programs. If the perception of risk is this widespread, it is a clear signal that intervention must not only be medical but also holistic in addressing the social, psychological, and economic ripple effects of unintended pregnancies.

Table 6.14 presented the distribution of perceived effects of unwanted pregnancy on total wellbeing and child developmental stages among 1,006 women in Edo South.

Table 6.14: Effects of Unwanted Pregnancy on Total Wellbeing and Child Developmental Stages

| Variable | Responses | Frequency |
|------------------------------------|-----------|-----------|
| Total Wellbeing | Low | 294 |
| | Moderate | 515 |
| | High | 197 |
| Infants (1Month-1year) | Low | 326 |
| | Moderate | 556 |
| | High | 124 |
| Toddlers (1-3Years) | Low | 328 |
| | Moderate | 560 |
| | High | 118 |
| Preschool & School Age (3-12Years) | Low | 343 |
| | Moderate | 561 |
| | High | 102 |
| Adolescents (12-18Years) | Low | 360 |
| | Moderate | 575 |
| | High | 71 |

Source: Author's Computation, 2025.

From Table 6.14, in terms of total wellbeing, the majority of respondents (51%) perceived the effect of unwanted pregnancy as moderate, while 29% rated it low and 20% high. This pattern suggests that while unwanted pregnancy was widely seen as disruptive, many women might have developed coping mechanisms or accessed limited support systems that mitigated its more severe consequences. Still, the 20%

high responses signal that for a significant portion of the population, the experience seriously undermined their overall quality of life.

The responses across the child developmental stages infants, toddlers, preschool/school-age children, and adolescent reflected similar trends. Moderate-level impacts were most commonly reported: 556 for infants, 560 for toddlers, 561 for preschool/school-age children, and 575 for adolescents. The "low" category followed closely, while "high" responses steadily declined across the stages (from 124 for infants to just 71 for adolescents). This suggested a perception that the impact of unwanted pregnancy may be more pronounced during early childhood but tapers off as children grow older, possibly due to increased independence or external support.

These findings serve as a compelling wake-up call, clearly demonstrating that unintended pregnancies are perceived to significantly affect both maternal wellbeing and child development. More than half of the women reported moderate effects across all categories, while a notable proportion identified severe impacts particularly on overall wellbeing, where 20% reported high effects. The consistent medium-level ratings (ranging from 51% to 57%) across various dimensions of wellbeing and developmental stages reflect a widespread concern about the consequences of unintended pregnancies. Additionally, the observed decline in high-impact perceptions from infancy (12%) to adolescence (7%) suggests that these effects are viewed as diminishing as children grow older. This evidence underscores the urgent need for targeted interventions to mitigate the far-reaching consequences of unintended pregnancies. It aligns closely with Sustainable Development Goal 3, Target 3.7, which advocates for universal access to reproductive healthcare. In this

context, it is imperative for Edo South to prioritize women's reproductive empowerment, ensuring they have the necessary resources and autonomy to make informed choices about their reproductive lives.

6.9 Discussion of Findings

The study revealed that although levels of awareness of family planning did not differ significantly between women interviewed from healthcare facilities and those surveyed within households, their patterns of utilization and responses to family planning services varied markedly. This finding underscores that while awareness of contraception was generally high, actual uptake was more strongly associated with a deeper and more accurate understanding of family planning methods than with mere exposure to information. Similar studies by Bolarinwa & Ameen (2021) revealed that over 85% of women in the north-central region were aware of family planning and modern contraceptives but only 35% of them use these methods with reasons largely due to religious and cultural perspectives. Also, In Irepodun LGA (Osun State), almost 98% were aware of family planning, 83% had positive perceptions, yet only 38% had good utilization (Amu et al., 2025). In a research conducted in East Africa (Kenya, Uganda and Tanzania) where over 75% of women were aware of modern contraceptives but cultural, religious, and spousal barriers reduced usage to below 40% in many areas. (Blackstone, et al., 2017).

Findings from the study revealed that the method of contraceptives used either orthodox, traditional or both was influenced by institutional exposure to healthcare services. Lower levels of unintended pregnancies were observed in urban and peri-urban areas when compared to the high levels of unintended pregnancies in peripheral

and rural communities. This was attributed healthcare infrastructure, better road networks, higher levels of education, and increased exposure to reproductive health messaging. Similar results were obtained from a research conducted by Fagbamigbe and Idemudia (2017) which found hospital-based women to have higher orthodox contraceptive uptake (45%) than household women (28%) despite similar awareness levels of over 85%. Women who accessed maternal healthcare services in underserved areas of Nigeria were significantly more likely to adopt modern family planning methods, highlighting the positive impact of health facility visits on contraceptive use (Ajayi et al., 2019; Okunlola, et al., 2006). Proper education, awareness and increased access to health facilities will help ameliorate the trust in cultural methods and assist in achieving the SDG 3, target 7 goals for women of reproductive health.

Difficulties with long travel distances and infrastructures such as poor road networks, poor service availability among others has been highlighted in this research as barriers that significantly impact the use of family planning methods by household women. Similar researches conducted, one in south-south Nigeria showed that women living within 3km from a hospital facility were three times more likely to use orthodox contraceptives than those that are over 5km away (Okonofua et al., 2019a). Ogunjuyigbe and his colleagues also reported that rural women, despite high awareness pointed out poor road conditions as a reason for low family planning use. (Ogunjuyigbe et al., 2009). In Lagos State, a qualitative study found that geographic proximity significantly influenced access to family planning services. Women living farther from clinics faced challenges such as traffic congestion and limited public transportation, leading to reduced service utilization (Akinyemi, et al., 2022). Also

findings from this study reflects that done by, Appleton (1996) who found a correlation between education and reduced fertility among women. This is also in line with Akpa and Ikpotokin (2012) that noted that there is a likelihood of women who have had post-secondary education to have lesser children than their counterparts with low education.

6.10 Summary

Chapter 6 examined the awareness, attitudes, and spatial distribution of family planning and unintended pregnancy among women in Edo South, drawing on data from Tables 6.1, 6.2, and 6.3, and spatial analyses. The findings revealed critical insights into the depth of contraceptive knowledge, attitudinal barriers, and geographic disparities influencing reproductive health outcomes.

The analysis demonstrated widespread awareness of family planning, with nearly all women in both household and hospital settings affirming knowledge of contraceptives. However, significant differences emerged in the depth of awareness and knowledge. Women in hospital group exhibited higher levels of average and very high awareness and knowledge compared to household women, who more frequently reported above-average awareness but lower overall knowledge, with a notable proportion citing low knowledge levels. These findings confirms a study conducted among Igbo women in southeastern Nigeria revealed high levels of awareness (80%) and approval (87%) of family planning methods. However, the actual practice of modern family planning was low (25%), with the most common methods being natural methods like the Billings/safe period. The predominant reason for non-use was partner rejection, highlighting the significant role of male influence in family planning

decisions (Okezie et al., 2005). This disparity underscored the transformative role of healthcare settings in enhancing reproductive health education, as hospital women benefited from structured counseling and professional guidance, leading to greater confidence in modern contraceptive methods.

Despite similar overall contraceptive use rates between groups, the type of contraceptive used varied significantly. Hospital women predominantly used orthodox methods, reflecting trust in modern healthcare, while household women were more likely to use a combination of traditional and orthodox methods, influenced by cultural practices favoring larger families. This gap highlighted that widespread awareness did not always translate into effective contraceptive practices, particularly in community settings, where traditional methods persisted.

Attitudes toward family planning were generally positive, with strong support for its promotion and confidence in its effectiveness. However, ambivalence persisted regarding access for unmarried women and perceived risks, reflecting socio-cultural norms and misconceptions that shaped perceptions. These attitudinal barriers suggested the need for tailored communication to address inclusivity and dispel myths.

Spatial analysis revealed pronounced geographic disparities in accessing family planning services and unintended pregnancy rates. Urban communities, particularly those with close proximity with major roads, enjoyed higher accessibility to family planning facilities, correlating with lower unintended pregnancy rates. In contrast, peripheral and rural communities faced significant barriers, including longer travel distances, poor road infrastructure, and limited-service availability, leading to higher

unintended pregnancy rates. These patterns emphasized the centralization of healthcare resources in urban cores and the neglect of rural areas, exacerbating spatial inequalities.

A likely reason for these findings was the interplay of healthcare access, socio-cultural norms, and infrastructural disparities. Hospital settings provided robust education and access to modern contraceptives, enhancing knowledge and reducing misconceptions, while household women, often in rural areas, faced barriers like limited healthcare infrastructure and cultural influences that perpetuated traditional practices and stigma. The spatial concentration of services in urban areas, coupled with poor rural connectivity, further widened disparities in access and outcomes. These findings aligned with Sustainable Development Goal 3, Target 3.7, emphasizing universal access to reproductive healthcare. To address these challenges, Edo South needed targeted interventions community-based education, mobile clinics, and infrastructure improvements to bridge knowledge gaps, promote modern contraceptive use, and ensure equitable access, reducing unintended pregnancies and empowering women across all communities.

The findings from accessibility and utilization of family planning showed a significant uptake of contraceptives prior to pregnancy, with most women using orthodox methods, reflecting trust in modern healthcare systems. However, a notable minority did not use contraception, and traditional methods persisted, particularly among household women, indicating cultural influences and access gaps. Hospital-based women benefited from professional guidance, driving higher use of orthodox methods, while household women faced barriers limiting effective contraceptive

practices, contributing to the high prevalence of unintended pregnancies. These disparities underscored the need for equitable access to essential health services, as emphasized by SDG 3.8, which advocates universal health coverage, including access to quality reproductive healthcare and financial risk protection. Accessibility was a major challenge, with household women reporting low access due to distance-related barriers, and significant variations across communities highlighted better access in urban areas compared to rural regions. Cost was a significant determinant of contraceptive choice for household women, while socio-demographic and health facility influences were less differentiating. Women in their early to mid-thirties were central to both contraceptive use and non-use, reflecting a critical life stage shaped by reproductive intentions and access barriers. This affirms the work of Makinde et al., (2022) who stated that physical access remains a significant obstacle to accessing reproductive health care facilities.

Constraints to family planning included inadequate information, lack of partner support, cultural stigmatization, and systemic issues like drug shortages, with provider-related barriers being less severe. Household women reported a higher prevalence of negative effects from unintended pregnancies compared to hospital women, who benefited from protective healthcare access. Both groups perceived severe risks, including unsafe abortion, mental stress, reduced quality of life, and economic insecurity, with impacts on maternal wellbeing and child development seen as moderate but diminishing as children aged. This result upholds the submission by Fapohunda & Poukouta (1997) that changes in socio economic status could lead to women revising their fertility preferences overtime.

CHAPTER SEVEN

QUALITATIVE INSIGHTS FROM HEALTHCARE FACILITATORS ON BARRIERS AND STRATEGIES IN FAMILY PLANNING

7.1 Introduction

Reflexive Thematic Analysis, as outlined by Braun and Clarke (2006, 2013, 2019, 2020), is well-suited for discussing these results because it provides the flexibility to examine both explicit and latent meanings in the data. It acknowledges the subjective and contextual nature of participants' perspectives, facilitates a rich interpretation of complex and interconnected themes such as policy, beliefs, and awareness; it also allows themes to emerge inductively rather than being predetermined (Byrne, 2022). Using this approach, five key themes were identified: *Population Growth and Its Implications; Availability and Accessibility of Family Planning Services; Factors Influencing Family Planning Decisions; Government and Policy in Family Planning; and Family Planning and Development Goals.*

7.2 Data Presentation

The data of the 27 healthcare facilitators were presented under this section. Table 7.1 presents their demographic and professional characteristics, including gender, positions, and job descriptions in relation to family planning service delivery. The table highlights the distribution of female nurses, male nurses, doctors, and facilitators who participated in the interviews.

Table 7.1: Profile of Healthcare Facilitators Interviewed on Family Planning Service

| S/N | Code | Gender | Position | Job Description | Hospital |
|-----|-------|--------|----------|--------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| 1 | HF-1 | Female | Nurse | Provides counseling on family planning, administers pills and injectables, and monitors clients for side effects. | Lydia Maternity Home |
| 2 | HF-2 | Female | Nurse | Guides women on contraceptive options, conducts routine FP sessions, and sensitizes clients on reproductive health. | Udo Comprehensive Health |
| 3 | HF-3 | Female | Nurse | Offers FP counseling, administers short-term methods, and ensures proper follow-up for clients. | Obadan Health Care |
| 4 | HF-4 | Female | Nurse | Conducts family planning education, provides implants and IUD insertions, and assists in client record-keeping. | NIFOR MCH |
| 5 | HF-5 | Female | Nurse | Delivers weekly FP clinics, provides oral and injectable contraceptives, and responds to clients' concerns. | NIFOR MCH |
| 6 | HF-6 | Female | Nurse | Counsels on birth spacing, administers contraceptives, and refers clients for further care if complications arise. | Mount Gilead |
| 7 | HF-7 | Female | Nurse | Combines orthodox and traditional FP approaches, teaches natural methods, and provides permanent FP services (BTL, vasectomy). | Central Hospital |
| 8 | HF-8 | Female | Nurse | Runs FP outreach twice a week, counsels clients on available methods, and manages implant and IUD services. | Central Hospital |
| 9 | HF-9 | Female | Nurse | Provides contraceptive services, educates on abstinence and exclusive breastfeeding, and supports young mothers. | Faith Mediplex |
| 10 | HF-10 | Female | Nurse | Conducts FP sessions, prescribes and administers contraceptives, and educates on safe reproductive health practices. | Faith Mediplex |
| 11 | HF-11 | Female | Nurse | Offers FP counseling, administers hormonal methods, and assists with permanent FP procedures. | Faith Mediplex |
| 12 | HF-12 | Female | Nurse | Provides a wide range of FP services, teaches clients about modern and traditional methods, and promotes male involvement. | Faith Mediplex |
| 13 | HF-13 | Female | Nurse | Facilitates FP clinics twice weekly, guides women on safe contraceptive choices, and manages demand growth. | Faith Mediplex |

Table 7.1 continues...

| | | | | | |
|----|-------|--------|-------------|----------------------------------------------------------------------------------------------------------------------|----------------|
| 14 | HF-14 | Female | Nurse | Educates women on myths/misconceptions, administers modern contraceptives, and encourages male participation. | UBTH |
| 15 | HF-15 | Female | Nurse | Provides FP counseling, administers short- and long-term methods, and addresses client fears about infertility. | UBTH |
| 16 | HF-16 | Female | Nurse | Runs FP clinics thrice weekly, counsels women on spacing pregnancies, and provides contraceptive commodities. | UBTH |
| 17 | HF-17 | Female | Nurse | Offers FP counseling, distributes contraceptives, and provides follow-up support to address side effects. | UBTH |
| 18 | HF-18 | Female | Nurse | Provides FP services during clinic days, offers counseling, and assists clients in choosing suitable contraceptives. | UBTH |
| 19 | HF-19 | Male | Nurse | Administers contraceptives, manages clinic schedules, and supports women in understanding FP benefits. | UBTH |
| 20 | HF-20 | Male | Doctor | Supervises FP services, handles complex cases, trains nurses, and performs IUD/implant insertions. | UBTH |
| 21 | HF-21 | Male | Facilitator | Conducts FP awareness campaigns, engages communities in sensitization, and connects clients to clinics. | UBTH |
| 22 | HF-22 | Male | Nurse | Provides daily contraceptive services, supports counseling, and ensures proper record management. | UBTH |
| 23 | HF-23 | Male | Facilitator | Coordinates community FP outreach, educates men and women on FP, and reduces stigma around contraceptive use. | UBTH |
| 24 | HF-24 | Male | Nurse | Provides contraceptive services twice weekly, offers individualized FP counseling, and follows up on clients. | Stella Obsanjo |
| 25 | HF-25 | Male | Doctor | Oversees FP clinical services, trains staff on method application, and manages complicated FP cases. | Stella Obsanjo |
| 26 | HF-26 | Male | Facilitator | Leads health education on FP in communities, distributes IEC materials, and mobilizes local support for FP. | Stella Obsanjo |
| 27 | HF-27 | Male | Nurse | Conducts FP clinics, provides short-term methods, and educates clients on safe contraceptive use. | Stella Obsanjo |

Source: Author's Fieldwork, 2025.

The findings in Table 7.1 reveal the roles played by healthcare facilitators in family planning service delivery. Their contributions extend beyond routine clinical tasks to include counseling clients, administering contraceptives, supervising services, and conducting community outreach. Nurses, who made up the majority, play a central role in daily service provision and client education. Doctors, though fewer in number, provide supervisory oversight, manage complex cases, and train lower-level staff. Facilitators complement these efforts by engaging communities, dispelling myths, and mobilizing clients toward effective family planning utilization. These details provide valuable context for the perspectives shared during the interviews and underscore the diverse but complementary contributions of healthcare practitioners to family planning programs. Collectively, they demonstrate how the integration of clinical expertise and community engagement strengthens access to and uptake of family planning services. The code *Healthcare Facilitator (HF)* was used to collectively represent all participants, as their various positions each contributed in different ways to the delivery of family planning healthcare services.

7.3 Population Growth and Its Implications

The findings revealed a consistent theme regarding the high population in both Nigeria and Edo State, with a shared concern about the consequences of unchecked population growth. Many respondents, such as HF-1, expressed the view that Nigeria's population is too high, leading to negative outcomes like unemployment and pressure on available resources.

“I believe the population of Nigeria is too high, and this is evident in the high rate of unemployment across the country.”

Similarly, HF-2 highlighted the importance of family planning in controlling the growth, emphasizing that

“In my view, Nigeria's population is high. Edo State also has a high population, and I believe this is because many women in the state have up to five children.”

According to HF-5 he believes that the continuous growth in population in both Nigeria and Edo State is a function of ignorance, stating that

“I consider the population of Nigeria to be high, while Edo State's population is too high in my opinion. From what I've observed, ignorance plays a big role in the continuous growth of the population.”

In the opinion of HF-13 he opined that the high population of Nigeria and Edo State is putting pressure on the social amenities particularly in the urbanised spaces in Edo State, saying that,

“Nigeria's population is too high due to the pressure on social amenities and healthcare services, and Edo State's population is high, particularly in urban areas”

The analysis revealed that respondents attributed uncontrolled population growth to a variety of factors, including ignorance, poverty, and lack of family planning resources.

For example, HF-4 noted,

“I believe that poverty and ignorance are the main drivers of uncontrolled population growth,”

while HF-5 identified ignorance as a primary cause, stating,

“From what I've observed, ignorance plays a big role in the continuous growth of the population.”

Similarly, HF-13 ascribed lack of awareness and access to family planning as the leading causes of the uncontrolled pupation growth

“Lack of awareness and access to family planning is the key causes of uncontrolled population growth.”

These responses suggest that a lack of awareness and education about family planning is a critical barrier.

Respondents also identified strategies to mitigate the problem. HF-4 recommended,

“We strictly enforce birth control measures and educate people on the need for family planning.”

while HF-13 suggested

“community outreach and free contraceptive distribution”

as effective solutions. This reflects a shared understanding that more comprehensive education and accessibility to family planning tools are necessary to address the population issue.

The responses also pointed out specific regional concerns, such as overcrowding in Edo State. HF-9 noted,

“Nigeria's population is too high due to the rising birth rate, and the same is true for Edo State, with continuous growth leading to increased costs of living.”

Similarly, HF-14 stressed,

“Edo State's population is high, particularly in Benin City, leading to poor maternal health and overburdened health services,”

pointing out the strain on local healthcare systems as a significant consequence.

Additionally, several respondents highlighted the need for more targeted interventions, including media campaigns, improved healthcare infrastructure, and the involvement of community leaders. HF-20 emphasized the role of women's empowerment, stating,

“Edo State’s population is high, leading to rising poverty and poor maternal health outcomes, which can be improved by providing free family planning and empowering women.”

Others, like HF-25, suggested the inclusion of men in family planning discussions, stating,

“Nigeria’s population is too high, overwhelming the system, and Edo State’s population is high, leading to poverty, low-quality education, and strain on health services, which can be alleviated by increasing men’s involvement in family planning discussions.”

The findings from these responses accentuated the critical role of family planning in controlling population growth, addressing the economic and social consequences of overpopulation, and improving maternal and child health. The common theme that emerges from the data is the urgent need for education, access to family planning resources, and effective government intervention to manage population growth in both Nigeria and Edo State.

7.4 Availability and Accessibility of Family Planning Services

The findings revealed key insights regarding the availability, demand, and cost-related accessibility of family planning services across health facilities. A central theme that

emerged was the frequency of service provision, with varying levels of demand and differing views on how cost affects the utilisation of family planning utilisation.

HF-1 reported that,

“We offer family planning services once a week, with orthodox methods like pills and injectables, but the demand is low and the services are not free, and I believe the cost does not influence the decision to use them.”

Similarly, HF-2 stated that although their facility provided a wide range of methods daily,

“clients pay a small fee, which I believe should not affect their decision to use family planning.”

HF-3 emphasized the affordability of services should not be a factor that deters clients from family planning patronage, saying,

“We provide family planning services three times a month... which are free of charge, and since there's no financial cost, I don't think it influences people's decision.”

The demand for services also varied. HF-4 observed,

“Although the demand is high, the services are not free, but I don't think the cost should deter people from using family planning.”

HF-5 echoed this same sentiment, stating,

“Although the demand is high, the services are not free, but I don't think the cost should deter people from using family planning.”

HF-6 reported,

“Although the demand is average, the services are not free, but the cost doesn't seem to be a barrier for using them.”

These responses suggested that for many respondents, cost was not perceived as a major deterrent, despite services not being fully subsidized. However, some respondents did identify cost as a challenge for certain groups as affordability can be relative to different groups. HF-12 stated,

“While clients must pay, I believe the cost can influence their decision to seek family planning.”

Similarly, HF-13 explained that,

“Although the services aren’t free, the cost affects uptake, especially among low-income earners.”

HF-14 added a socio-cultural dimension, stating,

“Although it’s not free, the cost discourages some women, especially housewives,”

with demand already low due to myths and lack of male involvement.

HF-15, however, noted that demand was very high among a specific demographic, saying,

“I offer family planning services once a week, with very high demand among women aged 25–35, and while there’s a fee, it doesn’t seem to stop many from using the services.”

HF-16 reported no cost barrier due to full subsidization:

“Since the services are free, the cost is not a concern.”

In contrast, HF-17 observed some negative effects of cost, saying,

“Although the services are not free, the cost does prevent some people from coming regularly.”

HF-18 also highlighted financial challenges, stating,

“While the services aren't free, the cost can be a challenge for some clients,”

especially with low demand tied to poor understanding.

HF-19 echoed this, explaining that,

“Although the services come with a charge, it affects some clients' ability to return regularly.”

Lastly, HF-20 described a positive case, stating,

“Although the services are not free, the cost is not an issue,” particularly among working-class women who constituted a high-demand group.

The findings showed that while family planning services were generally available ranging from weekly to daily, the demand fluctuated based on demographics, awareness, and socio-cultural characteristics of the clients. Cost did not universally deter uptake but remained a significant barrier for vulnerable groups such as low-income earners, teenagers, and housewives. These findings highlight the need for expanded access to free or subsidized services and increased education to combat myths and cultural resistance. This finding was reflected by the findings in Table 7.1 revealing that the use of contraceptives by women in the study area was not by chance as majority of women in Edo South adopted contraceptive methods prior to pregnancy, showing a strong preference for orthodox methods, which are generally more effective and endorsed within the healthcare system.

Also, these findings can be used to buttress the argument of Harrison (1982) which stated that the lack of access to formal family planning clinics cannot be considered a

valid justification for having large families, as every culture possesses its own traditional methods of family planning. So, the use of both orthodox and traditional method by women in Edo South validates his claims.

7.5 Factors Influencing Family Planning Decisions

Based on the responses of the health facilitators, several key themes emerged regarding the factors influencing family planning decisions, the nature of client concerns, the role of religion and culture, and the barriers to both provision and uptake of services. These themes highlighted deep-seated myths, partner influence, religious and cultural resistance, and systemic limitations.

Fear, misinformation, and lack of spousal support were frequently reported as major factors affecting clients' decisions. HF-1 stated,

“The factors influencing family planning decisions are fear, lack of support from partners, and poor orientation.”

HF-2 echoed this, noting that

“The factors influencing family planning decisions include encouragement from a partner, fear of negative effects like weight gain, and religious beliefs.”

Similarly, HF-3 identified

“lack of encouragement from a partner and stigmatization” as critical influences.

Concerns raised by women often centered on health implications and social disapproval.

HF-4 explained that

“Women seeking family planning advice often raise concerns about side effects, like weight gain, and myths about not being able to have children after using it.”

HF-5 added that

“Women who come for family planning advice often raise concerns about side effects... and myths about not being able to bear children after use.”

HF-12 shared that

“Women seeking family planning advice raise concerns about infertility, excessive bleeding, and fears related to irregular menstruation.”

These perceptions contributed to hesitation or outright rejection of family planning services.

Religious and cultural beliefs were widely acknowledged as key influences.

HF-1 remarked that

“Religion and culture play a role in the decision to use family planning, especially among Muslims, and this requires orientation.”

HF-10 added that

“Religion and cultural beliefs play a role... and further education and health education are necessary to help address misconceptions.”

HF-13 strongly asserted that

“Religion and culture play a significant role in the decision to use family planning,”

emphasizing the need for “sensitization through community engagement and religious leaders.”

Some respondents pointed out that not all clients openly express concerns, though indirect effects were still evident. HF-11 mentioned,

“I’m unsure if women seeking family planning advice raise concerns,”

while HF-8 admitted,

“I am unsure if women who come for family planning advice raise concerns since I don’t deal with them directly.”

Common barriers to service provision included lack of trained personnel, stockouts, and persistent myths. HF-13 reported that

“Barriers include a lack of trained staff and insufficient supplies, while misinformation and fear of side effects are the major reasons people avoid it.”

HF-14 noted that

“Barriers include a lack of consistent supply of commodities, fear of infertility, and community judgment.”

HF-15 explained,

“Barriers include stockouts and a lack of trained family planning providers, and social pressure and misinformation also deter people from using family planning.”

There was also consensus on potential solutions.

HF-16 suggested,

“Peer education and involving community and religious leaders can help,”

while HF-21 emphasized,

“Sensitization through religious gatherings is important.”

HF-22 recommended

“Interfaith dialogue and open discussion forums”

to challenge cultural beliefs and misconceptions.

These findings highlighted the complexity between individual fears, partner and community influence, and systemic service limitations in shaping family planning behaviors. Addressing these challenges requires not only structural improvements but also culturally sensitive education and engagement strategies.

These findings buttressed and supported the findings from Table 7.7 the factors that influences and constrains family planning use are individual fear which can be exacerbated by inadequate information about improved sexual and reproductive health services, lack of support from partner and stigmatization from the society. This goes to show the solid reliability of the tools for data collection. This finding was supported by the findings of Adelekan et al., (2020), Akinola et al., (2020) and Okonofua et al., (2022) as the found that fear of side effects, misconceptions, provider bias, lack of social support, financial barriers, and cultural as well as religious norms have been identified as major obstacles limiting access to family planning services among adolescents in Nigeria.

7.6 Government and Policy in Family Planning

The findings revealed a general dissatisfaction with current family planning funding and program implementation, with a heavy reliance on donor support and minimal government involvement. Most respondents expressed concern about the lack of active family planning programs in their LGAs and emphasized the need for the

government to play a more prominent role in funding, service provision, and awareness programs.

Several respondents reported that while some level of support existed, it was insufficient.

HF-1 noted,

“The current funding is too little and there’s no family planning project ongoing here.”

Similarly, HF-2 stated,

“Although the government funds family planning through its facilities, the funding is insufficient and there’s no program currently active in this LGA.”

HF-3 confirmed that

“The government is funding family planning here, but the support is not enough, and there’s no ongoing project.”

Private organizations and donor partners were often mentioned as primary sources of support, though their input was also considered inadequate.

HF-4 shared,

“While WHO-Mariestopes is funding family planning, there’s no public project ongoing, only private ones.”

HF-5 emphasized,

“The current funding from WHO-Mariestopes is insufficient and no government program is running.” Similarly,

HF-13 reported,

“We’re mostly supported by donor partners, but the funding is inadequate.”

Many respondents expressed uncertainty about the existence of any active government program.

HF-7 said,

“I’m not sure if there’s any ongoing family planning program or funding.”

HF-10 added,

“I don’t know if there’s funding, but the government’s support is too little.”

HF-12 remarked,

“I don’t know if any program is currently ongoing here.”

Respondents commonly called for greater government responsibility.

HF-6 urged,

“The government should step up with services, commodities, and IEC FPS support program.”

HF-9 suggested,

“The government should train health workers, raise awareness consistently, and collaborate with international bodies.”

HF-11 stressed that

“The government should make family planning free, accessible at grassroots, and staffed with healthcare workers.”

Others highlighted the need for the government to complement donor efforts with more structured and sustainable input.

HF-14 stated,

“Funding mainly comes from donors, but it’s not enough, and I think government should ensure product availability, train providers, and promote awareness.”

HF-15 added,

“The government and NGOs support us, but it’s minimal and irregular, so the government should focus on adolescent services.”

HF-17 emphasized,

“FP activities are funded by NGOs, but inconsistently and inadequately, and the government should increase logistics and organize sensitization.”

The lack of active programs was a recurring theme.

HF-16 observed,

“Even though government partners fund us, no project is active.”

HF-18 affirmed,

“There’s no active program despite inconsistent support from NGOs like Marie Stopes.”

HF-19 explained,

“Family planning is supported by international NGOs with minimal government input, and little or no program is running now.”

These responses revealed that family planning efforts in the area were largely donor-driven, sporadic, and underfunded. The respondents repeatedly called for stronger, more consistent, and sustainable government involvement particularly in terms of funding, training, logistics, awareness creation, and establishing active, grassroots-level programs.

Family Planning and Broader Development Goals

The findings highlighted a strong belief in the importance of family planning as a contributor to the Sustainable Development Goals (SDGs), particularly SDG 3.7, which states that

"By 2030, ensure universal access to sexual and reproductive health-care services, including for family planning, information and education, and the integration of reproductive health into national strategies and programmes."

Most respondents rated family planning as highly important for achieving their Local Government Area (LGA)'s development goals, citing its impact on women's health, maternal mortality reduction, poverty alleviation, and women's empowerment.

HF-1 emphasized,

"I believe family planning is connected to the sustainable development goals, including SDG 3.7, and I rate its importance for achieving LGA goals as 10 because it's closely linked to women's health, though fear remains a major barrier."

Similarly, HF-2 stated,

"I believe family planning supports the SDGs and SDG 3.7 specifically, and I rate it 10 for our LGA because it's connected to women's health, but lack of awareness is a key barrier."

HF-3 also rated family planning as a 10, adding,

"It helps achieve the SDGs, especially SDG 3.7, since it improves women's health, though poor awareness, lack of equipment, and insufficient manpower are major challenges."

HF-10 supported this perspective, saying,

“I rate the importance of family planning as 10 and believe it’s related to women’s health, and I think we need more health education sensitization.”

Some respondents acknowledged the value of family planning in achieving SDG 3.7 but rated it slightly lower.

HF-4 remarked,

“I believe family planning contributes to the SDGs, including SDG 3.7, and I rate it 9 for our LGA because it affects women’s health, although cost and cultural beliefs are major barriers.”

HF-5 also rated it 9 but noted,

“I don’t see a link to women’s health, and I think lack of education among women is a major barrier, so we need more education on family planning.”

HF-6 expressed similar sentiments, saying,

“I believe family planning contributes to SDG 3.7 and rate it 8 in importance because it relates to women’s health despite side effects, and I think we need more government support.”

HF-7, while unsure about the SDG connection, still acknowledged its relevance, stating,

“I believe it supports SDG 3.7 and rate it 8 for our LGA since it affects women’s health despite possible side effects like high blood pressure, and I suggest we use banners to educate the public.”

HF-13 emphasized the link to maternal health and poverty reduction, stating,

“I believe family planning reduces maternal deaths and poverty, contributing to SDG 3.7, and I rate it 9 because it improves women’s well-being, but lack of integration training is a barrier, so we need health education materials in local languages.”

HF-14 added,

“It supports sustainable development goals 3.7 and I rate it 8 since it reduces maternal deaths, though poor collaboration is a barrier, and I recommend more IEC materials and trained educators.”

HF-15 strongly supported its role in development, saying,

“Family planning contributes to the SDGs by controlling poverty and empowering women, and I rate it 10 because healthier women lead to healthier families, though lack of political will is a major barrier, so we need more community sensitization and tools.”

Others focused on the need for improved integration and outreach.

HF-16 shared,

“I believe family planning supports SDG 3.7 and rate it 9 for our LGA since pregnancy spacing improves health outcomes, but separate funding limits integration, so we need more health talks and outreach.”

HF-17 similarly noted,

“It supports the SDGs by reducing poverty and improving education, and I rate it 9 as it reduces maternal deaths, though lack of training

and space are barriers, and I suggest educational posters and outreach.”

HF-18 emphasized empowerment and health benefits, saying,

“I believe family planning promotes development and women’s empowerment, and I rate it 10 since it improves maternal and child health, but coordination is lacking, so we need more training for community health workers.”

HF-19 noted,

“Family planning supports development and health goals, and I rate it 8 because better spacing leads to healthier women, though misaligned service delivery is a problem, and I recommend retraining staff and better materials.”

Finally, HF-25 observed,

“Family planning supports the SDGs by empowering women economically, and I rate it 10 because it improves their health, though poor policy enforcement is a barrier, so I recommend support group initiatives and training.”

Overall, respondents viewed family planning as a vital tool for achieving sustainable development, especially regarding women’s health and empowerment, despite recurring barriers such as poor awareness, cultural beliefs, inadequate funding, and lack of integration. The reasons for these recurring barriers could be as a result of the non implantation of Task Shifting Policy TSP and Costed Implimentation Plan CIP as it was reported by Ikekhua and John-Abebe (2023). Recommendations included

increased health education, community sensitization, outreach, and better coordination of services.

7.7 Discussion of Findings

Healthcare practitioners constitute the backbone of family planning service delivery, as they are directly involved in facilitating access to contraceptive methods and reproductive health information. They are trusted sources of information within communities and their interactions with clients can either facilitate or hinder the uptake of family planning services, depending on how effectively they address issues such as myths, stigma, and gender-based barriers.

The findings of this research showed that healthcare practitioners understand the critical role of family planning in controlling population growth, addressing the economic and social consequences of overpopulation, and improving maternal and child health. The urgent need for education, access to family planning resources and effective government intervention were presented as measures to curb overpopulation. Akamike et al. (2020) also reported that ignorance, low education and misconceptions (reported by clients and confirmed by health workers) are major drivers of non-use of contraception which contributes to continued high fertility and population pressure.

The findings of this research has also showed that while family planning services were generally available ranging from weekly to daily, the demand fluctuated based on demographics, awareness, and socio-cultural characteristics of the clients. A study conducted by Ezenwaka et al. (2020) in Ebonyi State showed that the poor awareness and the inability to pay transportation cost deterred many adolescents from using family planning services. Healthcare practitioners interviewed in a study by Agbana

et al. (2022) reported that socio-cultural beliefs and lack of accurate information are main reasons for discontinuing or not initiating family planning.

Individual fear, lack of support from partner and stigmatization from the society were highlighted as main factors influencing the use of family planning services in the research. This was supported by the works of Akamike et al. (2020) and Fasanu et al. (2025). Government support was also highlighted by healthcare practitioners as an important factor for acceptance of family planning services. Hebert et al. (2013) and Adefalu et al. (2019) also mentioned that poor government support can negatively impact the use of family planning services.

7.8 Summary

Chapter 7 explored the qualitative insights from health practitioners on barriers and strategies for family planning in Edo South, drawing on a reflexive thematic analysis of health facilitators' responses. The findings from health practitioners, analyzed through reflexive thematic analysis, identified five key themes. First, concerns about Nigeria and Edo State's high population growth highlighted its links to unemployment, poverty, and strained healthcare systems, attributed to ignorance, poverty, and limited family planning access. Proposed solutions included education, community outreach, and men's involvement in family planning. Secondly, family planning services were generally available but with fluctuating demand; cost was a barrier for low-income groups, necessitating subsidized services. This emphasizes the need for financial risk protection, as promoted by SDG 3.8. Third, factors influencing family planning decisions included fear, misinformation, lack of spousal support, and religious/cultural resistance, with myths about side effects deterring uptake. Solutions

emphasized culturally sensitive education and community engagement. Fourth, dissatisfaction with government involvement was evident, with family planning efforts being donor-driven and underfunded, prompting calls for increased government funding, training, and grassroots programs. Fifth, family planning was seen as vital for achieving Sustainable Development Goal 3.7, enhancing women's health, reducing maternal mortality, and alleviating poverty, though barriers like poor awareness and inadequate integration persisted.

The reason for these findings was the interplay of limited healthcare access, socio-cultural norms, and systemic challenges in Edo South. Hospital settings provided better education and access, reducing negative outcomes, while household women, particularly in rural areas, faced geographic, economic, and cultural barriers, increasing vulnerability to unintended pregnancies. Cultural norms favoring large families, partner dynamics, and myths perpetuated traditional practices and non-use, while inadequate government support and systemic gaps exacerbated disparities. These findings aligned with SDG 3.7, advocating universal reproductive healthcare access and also reinforced the core objective of SDG 3.8, which emphasizes the attainment of universal health coverage by ensuring that reproductive health services are not only accessible and of high quality, but also financially affordable for all segments of the population. Edo South required bold interventions mobile clinics, subsidized services, community-based education, partner and religious leader engagement, and robust government-led programs to enhance access, address cultural barriers, manage population growth, and empower women, reducing unintended pregnancies and fostering sustainable development.

CHAPTER EIGHT

SUMMARY OF FINDINGS, CONTRIBUTION TO KNOWLEDGE, RECOMMENDATIONS AND CONCLUSION

8.1 Introduction

This chapter focused on the summary of findings, highlighting key results and insights uncovered during the study. The contribution to knowledge was emphasized as well as how the research advanced existing understanding and fills critical gaps. Recommendations were made by offering actionable suggestions based on the findings to guide future practices/research. And finally, conclusion was made by synthesizing the study's significance and reflecting on its broader implications. This section brought together the major insights derived from the research and demonstrated their relevance to the broader discourse on reproductive health and the achievement of Sustainable Development Goal 3 (SDG 3) in Edo South, Nigeria. It consolidated the research objectives, empirical evidence, and theoretical implications, while suggesting potential directions for policy action and future studies.

8.2. Summary of Findings

This research examined the multidimensional implications of the prevalence and determinants of unintended pregnancies in the context of the Sustainable Development Goals in Edo South, Nigeria. Based on the data collected and analyzed in relation to the stated research objectives, the following key findings emerged:

1. Causes of Unintended Pregnancies

The primary causes of unintended pregnancies included non-use and inconsistent use of contraceptives, driven by a combination of access barriers, inadequate

knowledge, and socio-cultural factors. Non-use was prevalent among women in their early thirties, often linked to cultural norms favoring large families, partner resistance, or intentional fertility desires. Inconsistent use stemmed from myths about contraceptive side effects, economic constraints, and limited access to reliable methods, particularly in household settings. Ignorance, poverty, and lack of family planning resources further exacerbated these issues, contributing to the high prevalence of unintended pregnancies and highlighting the need for enhanced education and service delivery.

2. Prevalence of Unintended Pregnancies Among Socio-Economic and Demographic Groups

Unintended pregnancies were prevalent across Edo South, disproportionately affecting specific socio-economic and demographic groups. Younger women, particularly those aged 20–29, married women, and those with lower educational attainment (primary education) faced higher risks, reflecting vulnerabilities tied to increased sexual activity, unmet family planning needs, and limited knowledge. Informal sector workers, such as traders and artisans, and low-income earners (below ₦50,000 monthly) also reported elevated incidences, indicating socio-economic barriers to reproductive health access. Geographic disparities were evident, with rural communities like Abudu showing higher rates compared to urban areas, underscoring location-based inequalities in service provision and awareness.

3. Perception of Family Planning Methods

Perceptions of family planning methods varied, with widespread awareness but differing preferences and concerns. Orthodox methods were favored, particularly among hospital-based women, reflecting trust in modern healthcare, while household women often used traditional methods or a combination, influenced by cultural practices. Positive attitudes toward family planning's promotion and effectiveness were common, but ambivalence persisted regarding access for unmarried women and perceived risks, fueled by myths about infertility and side effects. Negative perceptions of unintended pregnancy's effects, including unsafe abortion, mental stress, reduced quality of life, and economic insecurity, were nearly universal, underscoring the urgent need for education to dispel misconceptions and promote modern contraceptive uptake.

4. Utilization of Sexual and Reproductive Health Services

Utilization of sexual and reproductive health services showed significant disparities between hospital and household settings. Hospital-based women reported higher use of orthodox contraceptives, benefiting from structured counseling and access to modern methods, while household women faced barriers like low accessibility and reliance on less effective traditional methods. Overall contraceptive use rates were approximately 50%, but the quality of methods differed, with household women more likely to experience unintended pregnancies due to limited-service uptake. Demand for services varied by demographics, with higher utilization among women aged 25–35, though cost, myths, and lack of male involvement deterred consistent use among vulnerable

groups like low-income earners and housewives. These disparities highlight the urgent need to strengthen implementation of SDG 3.7, which advocates for universal access to sexual and reproductive healthcare, and SDG 3.8, which emphasizes equitable access to quality essential health services and financial risk protection. Addressing these gaps is essential to improving reproductive outcomes and achieving inclusive health coverage across diverse settings.

5. Unmet Needs and Constraints in Accessing Reproductive Health Services

Unmet needs and constraints in accessing reproductive health services were pervasive, particularly among household women. An unmet need rate of 39% highlights the substantial gap in the provision and utilization of reproductive health services among women of reproductive age, reflecting persistent challenges in access and accessibility; driven by long distances to facilities, poor road infrastructure, and centralized urban healthcare especially in rural communities. Inadequate information, lack of partner support, cultural stigmatization, and systemic issues like drug shortages hindered service access across both groups. Cost was a significant constraint for household women, particularly low-income groups, while religious and cultural beliefs perpetuated myths and resistance. This considerable gap poses a significant impediment to the realization of Sustainable Development Goal 3.7, which emphasizes the attainment of universal access to comprehensive sexual and reproductive healthcare services encompassing family planning, education, and information as a critical dimension of public health and gender equity. Government involvement was inadequate, with donor-driven programs lacking sustainability, prompting calls for increased funding, training,

and grassroots initiatives. Health practitioners emphasized the need for community-based education, mobile clinics, and engagement of men and religious leaders to address these constraints.

6. Integration of Unintended Pregnancy into the SDG 3, Target 7 Data Ecosystem

The research underscored the critical role of family planning in achieving SDG 3, Target 3.7 and 3.8, highlighting its contributions to women's health, maternal mortality reduction, poverty alleviation, and women's empowerment. Health practitioners consistently emphasized family planning's alignment with sustainable development, linking it to improved maternal and child health outcomes and reduced socio-economic burdens from high population growth. However, persistent barriers such as inadequate funding, poor awareness, and cultural resistance hindered integration efforts. The high prevalence of unintended pregnancies and their negative effects reinforced the need for robust data collection and policy frameworks to monitor and address reproductive health disparities, ensuring Edo South's alignment with global health goals through targeted interventions like community education and government-led programs.

In summary, the study provides strong evidence that addressing unintended pregnancies is essential for achieving SDG 3, Target 7. It highlights the need for more inclusive data systems, targeted interventions for vulnerable groups, improved service delivery, and culturally sensitive family planning programs.

8.3 Contribution to Knowledge of the Study

This study focused on exploring the multidimensional implications of the prevalence and determinants of unintended pregnancy in Edo South Senatorial District, Nigeria.

It sought to investigate the socio-economic and demographic characteristics associated with unintended pregnancies, its root causes, its effects on maternal and child wellbeing, and the need for these issues to be integrated into the broader goals of Sustainable Development Goal (SDG) 3, Target 7 which emphasizes universal access to sexual and reproductive health (SRH) services.

Despite the growing policy attention on reproductive health, unintended pregnancy remains underrepresented and under reported in both data eco-systems and intervention planning in Nigeria, especially at the sub-national level. Prior studies have generally treated unintended pregnancy as a peripheral concern or aggregated it under broader maternal health outcomes without context-specific data. This study addressed the gap in localized data on unintended pregnancy by producing empirical evidence from Edo South, thus providing the detailed socio-demographic patterns, causes, and consequences needed for informed local implementation of SDG 3, Target 7.

A novel aspect of this research lies in its integration of unintended pregnancy as a strategic indicator for monitoring progress toward SDG 3, Target 7 in a Nigerian subnational context. Using both quantitative and qualitative methods, the research presented unique directional measures to show statistically significant associations between unintended pregnancy and adverse outcomes such as morbidity child malnutrition and economic insecurity. Another innovation was the segmentation of effects by child developmental stages, revealing that unintended pregnancy had increasingly adverse effects from infancy through adolescence, with the lowest wellbeing scores observed in adolescents. These findings, combined with insights into

cultural, informational, and service delivery barriers, present a nuanced understanding not previously available in literature focused on Edo State.

This study enriches the broader field of public health, demography, and development studies by positioning unintended pregnancy as both a health issue and a development indicator. The documented associations between unintended pregnancy and negative maternal and child outcomes underscore the need to mainstream reproductive intentions in health policy and programming. By linking individual reproductive experiences with structural issues like provider attitudes, stigma, and unmet needs, the research offers a framework for integrating sexual and reproductive health services more holistically into health systems monitoring, particularly in resource-constrained settings.

This research, very significantly highlights major risks and complications associated with unintended pregnancies and an urgent need for targeted interventions to improve family planning knowledge, accessibility and utilization to reduce its occurrences and implications in the society. These implications have dire consequences on the total wellbeing of women, children and the society. Knowledge of these facilitates averting the consequences and proffering solutions.

Contextually, this research offers evidence-tailored data to the realities of women in Edo South, highlighting the intersection of local socio-cultural norms, healthcare delivery weaknesses, and economic challenges in shaping reproductive health outcomes. The findings such as high rates of misinformation about family planning, significant negative experiences from unintended pregnancies, and the statistical links to health and developmental consequences underscore the urgency of localized

interventions. The study, therefore, provides data-backed justification for Edo State policymakers and program designers to consider unintended pregnancy not only as a private issue but as a public health priority essential for achieving SDG 3 in the region.

8.4 Recommendations

Based on the findings of this study on the prevalence, causes, and implications of unintended pregnancy in Edo South Senatorial District, several actionable recommendations are presented to inform policy, program design, and service delivery. The following recommendations are directed at key stakeholders including government agencies, health service providers, community leaders, and development partners. Each of the recommendation aligns with specific findings of the research to enhance the effectiveness of interventions aimed at achieving SDG 3, Target 7 universal access to sexual and reproductive healthcare services.

The Ministry of Health should formally include unintended pregnancy as a core indicator in reproductive health monitoring systems to strengthen data collection for the implementation of SDG 3, Target 7. This will ensure that reproductive health outcomes are accurately tracked and that policies and interventions are evidence-based. Key stakeholders include ministry of health, national population commission, and development partners. The Nigeria family planning blueprint for 2020 to 2024 targets a prevalence in the use of contraceptives to 27 percent thereby increasing and improving family planning through Task shifting Policy (TSP) and Costed Implementation Plans (CIP) amongst other policies (Federal Ministry of Health, 2020). Ikekhua and John-Abebe (2023) reports that Edo State is yet to adopt the TSP and has no CIP domestication amongst the States in the Country and has the highest

Unmet need for family planning amongst the Southern States of the Country at 33 percent. Also, NPC and ICF (2019) reported that Edo State records the highest TFR at 4.8 percent and 80 percent of the women not currently using family planning methods in South-South Nigeria. It is pertinent that the preceding notions need be validated and expatiated through research in Edo State to raise awareness and educate women within the reproductive age that access and utilization of reproductive health-care services are their Statutory

Also, Family planning programs should be expanded and tailored to target adolescents, unmarried women, out-of-school youth, and women with lower levels of education, as these groups recorded higher prevalence of unintended pregnancy. Outreach efforts should include mobile clinics, youth-friendly services, and culturally appropriate educational campaigns to correct misinformation about contraception. Key stakeholders include Edo State Primary Healthcare Development Agency, NGOs, and community-based organizations.

In addition, Government agencies and partners should address the underlying causes of unintended pregnancy by introducing comprehensive sexuality education in schools, promoting community discussions on gender norms, and improving access to emergency contraception and support services for survivors of sexual violence. Key stakeholders include Ministry of Women Affairs, religious institutions, and education authorities.

Furthermore, Health facilities should improve the quality of sexual and reproductive health services by ensuring affordability, confidentiality, and respectful treatment of clients. Health workers should be trained in client-centered care and professional

ethics to reduce barriers such as provider bias and fear of stigma, which were identified in the study. Key stakeholders include Edo State health management board, and healthcare providers.

Also, mental health counseling and socioeconomic support services should be integrated into maternal and reproductive health care, as unintended pregnancy was significantly associated with mental distress and economic hardship. Programs should include psychological support and income-generating opportunities to improve women's wellbeing. Key stakeholders include the Ministry of Health, mental health NGOs, and social welfare agencies.

In addition, Child development programs should be strengthened to address the long-term effects of unintended pregnancies, particularly on adolescents, who were reported to experience the lowest wellbeing. Early childhood education, parenting support, and mentorship programs should be implemented to break the cycle of disadvantage. Key stakeholders include Ministry of Education, child protection agencies, and health educators.

Also, Community advocacy efforts should promote reproductive rights and gender equality to reduce stigma and silence around family planning through the use of mass and social media to create awareness amongst women of reproductive age and families. This will empower women to make informed decisions about their reproductive health and foster community acceptance of contraceptive use. Key Stakeholders include civil society organizations, community leaders, and policy advocates. Also, results from this study can be used as timely evidence for the incidence of unintended pregnancy which can motivate investment and greater

commitment to increase access to services and inform policies and programmes with respect to family planning programmes.

Finally, further research can be carried out on how health infrastructure in Edo South delivers reproductive health services and also the role of informal health service providers in reproductive health care services. The other Geo-political zones of the State such as Edo Central and Edo North can also have the research replicated there for a more holistic and comprehensive findings that captures the entire state.

These recommendations, if implemented, will not only reduce the incidence and burden of unintended pregnancies in Edo South but will also contribute to the achievement of broader reproductive health goals in Nigeria.

8.5 Conclusion

This study examined the multidimensional implications of the prevalence and determinants of unintended pregnancy in Edo South, with the aim of improving reproductive health outcomes in line with SDG 3, Target 7. The research was driven by concerns over the persistent rates of unintended pregnancies and the insufficient integration of relevant data into health planning and policy frameworks.

Researching on this subject matter required informed consent, trust and confidentiality from the respondents ensuring that this disclosure does not have negative implications from the cultural and religious perspective due to the sensitivity of the topic. Also, restrictive policies around abortions resulted in under reportage and misclassification of experiences especially due to stigma complicating measurement and ethical research.

The findings revealed that unintended pregnancy is a widespread issue among sexually active women in Edo South, particularly affecting younger, unmarried, and less educated women. The prevalence varied significantly across socio-demographic groups, emphasizing the need for targeted interventions. Key causes of unintended pregnancy included lack of access to contraceptive services, misinformation, societal pressures, and instances of sexual abuse. The study further found that while awareness of family planning methods was relatively high, misconceptions and cultural beliefs continued to hinder acceptance and use. Access to sexual and reproductive health (SRH) services was also found to be limited by cost, provider attitudes, confidentiality concerns, and infrastructural gaps. These barriers led to unmet reproductive health needs among many women.

Significant negative consequences of unintended pregnancy were documented, including increased cases of mental stress, economic insecurity, maternal morbidity, and poor child development outcomes particularly during adolescence, where the lowest wellbeing scores were recorded. These findings support the need for a holistic approach to sexual and reproductive health that addresses both medical and socio-emotional dimensions.

Each research objective was addressed: unintended pregnancy data was shown to be crucial for SDG 3, Target 7 and implementation; prevalence patterns were analyzed across socio-economic groups; causes were clearly identified; perceptions of family planning were examined; access and utilization of sexual and reproductive health services were evaluated; and existing constraints to care were highlighted.

The study contributes to knowledge by demonstrating the importance of including unintended pregnancy metrics in national health data systems, highlighting the interconnections between reproductive health, socio-economic conditions, and child wellbeing. It also adds contextual evidence from a subnational perspective, which is often underrepresented in national policy discussions.

Looking ahead, addressing unintended pregnancy must become a central element of reproductive health programming. Policy makers, development partners, and community leaders are encouraged to act on these findings to build inclusive, responsive, and data-informed reproductive health systems that support women throughout their life course.

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APPENDIX 1

DEPARTMENT OF GEOGRAPHY AND GEOGRAPHY PLANNING FACULTY OF SOCIAL SCIENCES UNIVERSITY OF BENIN, BENIN CITY

Dear Respondent,

I am a Postgraduate student of the above-named University, carrying out a study on Multidimensional Implications of the prevalence and determinants of unintended pregnancy in Edo South. Your responses will be treated with utmost confidentiality and used only for Academic purposes on the above subject matter.

Thank you.

Ehiane Otabor-Olubor (Researcher)

SECTION A: Demographic and Socio-Economic Characteristics of Respondents

1. Community/Facility
2. Local Government Area
3. Coordinates of House: Longitude & Latitude
4. Age of respondent in years
5. Marital Status (a) Single [] (b) Married [] (c) Separated [] (d)Widow [] (e) Divorced[]
6. Ethnicity (a) Bini [] (b) Esan [] (c) Yoruba [] (d) Igbo [] (e) Hausa [] (f) Others
7. Highest Educational Qualification (a) No formal education [] (b) Primary Education[] (c) Secondary Education [] (d) Tertiary Education []
8. Religion (a) Christian [] (b) Muslim [] (c) Traditional [] (d) Others
9. Occupation (a) Civil/Public Servant [] (b) Entrepreneur [] (c) Business [] (d) Farmer [] (e) Artisan [] (f) Others
10. Monthly Income
11. Household Size (a) 2-3 (b) 4-6 (c) 7-9 (d) 10-12 (e) Above 12
12. Age of entry into marriage: a) 15-19 [] b) 20 – 24 [] c) 25 - 29 [] d) 30 - 34 [] e) 35 - 39 []
13. Age at first birth: a) 15-19 [] b) 20 – 24 [] c) 25 - 29 [] d) 30 - 34 [] e) 35 - 39 [] f) Above 39 []
14. Number of births, specify.....
15. Do you still desire to have more children? (a) Yes [](b) No[] (c)Undecided []
16. If yes to the above question, how many more do you desire? (a) 1 [] (b) 2 [] (c) 3 [] (d) 4 [] (e) More than 4[]
17. Who makes the decision on the desired number of children? (a) Myself [] (b) Husband [] (c) Both couple [] (d) Other Family members/Relative [] Friend (e) Others [] specify.....

18. Does your religion encourage large family? Yes [] No [] Not aware []

19. Does your culture encourage large family? Yes [] No [] Not aware []

SECTION B: Focal causes of unintended pregnancies among women of reproductive age

20. Have you had an unintended pregnancy before? Yes [] No []

21. If yes to the above question, how many times?

22. On the average, what is the interval between one unintended pregnancy and the other Specify _____

23. Below are some questions that ask about your circumstances and feelings around the time you became pregnant. Please think of your current (or most recent) pregnancy when answering the questions below. Please tick the statement which most applies to you.

| Feelings by women when noticing unplanned pregnancy | Extent of Agreement/Disagreement | | | | |
|-----------------------------------------------------|----------------------------------|----------------|---------|----------|-------------------|
| | Agree | Strongly Agree | Neutral | Disagree | Strongly Disagree |
| Surprise | | | | | |
| Fear | | | | | |
| Shock | | | | | |
| Anxiety | | | | | |
| Confusion | | | | | |
| Uncertainty | | | | | |
| Excitement | | | | | |
| Nonchalance | | | | | |
| Relief | | | | | |

24. From the under listed, what led to your unintended pregnancy (ies)?

| Causes of unintended pregnancies | Yes | No |
|------------------------------------------------|-----|----|
| Non-use of contraceptives | | |
| Contraceptive failure | | |
| Rape | | |
| Inadequate knowledge of sex education | | |
| Misuse and irregular use of contraceptives | | |
| Cultural inclination | | |
| Religious belief | | |
| Nonchalant attitude towards pregnancy planning | | |

25. In the month that I became pregnant..... (a) I/we were not using contraception [], (b) I/we were using contraception, but not on every occasion [], (c) I/we always used contraception, but knew that the method had failed (i.e. broke, moved, came off, came out, not worked etc) at least once [], (d) I/we always used contraception []
26. In terms of becoming a mother (*first time or again*), I feel that my pregnancy happened at the..... (a)Right time [], (b) Ok, but not quite right time [], (c) Wrong time [] (d) Can't really tell []
27. Just **before** I became pregnant..... (a)I intended to get pregnant [], (b) My intentions kept changing [], (c) I did not intend to get pregnant [] (e) Can't really tell []
28. Just **before**I became pregnant..... (a) I wanted to have a baby [], (b) I had mixed feelings about having a baby [], (c) I did not want to have a baby [], (d) Can't really tell []
29. **Before** I became pregnant..... (a) My partner and I had agreed that we would like me to be pregnant [], (b) My partner and I had discussed having children together, but hadn't agreed for me to get pregnant [], (c) We never discussed having children together [], (d) I chose to become pregnant without a partner [],(e) Can't really tell []
30. **Before** you became pregnant, did you do anything to improve your health **in preparation for pregnancy**? (a) Took folic acid [], (b) stopped or cut down smoking [], (c) Stopped or cut down drinking alcohol [], (d) Ate more healthily [], (e) Sought medical/health advice [], (f) I did not do any of the above **before** my pregnancy [], (g) Took some other action [], please describe

SECTION C: Knowledge and Attitude of sexually active women on Family Planning Methods

31. Are you aware about family planning? Yes [] No []
32. If yes to the above question, what is your level of awareness
(a) Very High (b) Above Average (c) Average (d) Below Average (e) Very Low
33. Have you used any contraceptives prior to pregnancy? Yes [] No []
34. If yes to the question above, kindly tick the various forms of contraceptives you are aware of as listed below

| Name of contraceptive (Please tick where applicable) | | | |
|------------------------------------------------------|--------------------------------|----------|----------------------------|
| Traditional | | Orthodox | |
| 1 | Lactational amenorrhea | | Female sterilization |
| 2 | Coitus interrupts (withdrawal) | | Pills |
| 3 | Calendar | | Inytrauterine device (IUD) |
| 4 | Abstinence | | Injectables |
| 5 | Cultural rituals | | Condoms |
| 6 | Herbs | | Diaphragm |
| 7 | Hormonal methods | | Implants |

Others, Specify.....

35. Which of the above methods have you used in controlling the number of children you have? (a) None (b) Traditional (c) Orthodox (d) Both (e) others
36. Below are some questions that ask about the attitude of women on the use of family planning methods. Kindly tick the state that most applies to you.

| Attitude of women on the use of family planning methods | Extent of Agreement/Disagreement | | | | |
|--------------------------------------------------------------------------------------------------------------------|----------------------------------|-------|---------|----------|-------------------|
| | Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree |
| Do you think that the use of family planning methods should be encouraged? | | | | | |
| Should the use of family planning methods be for all women who are sexually active irrespective of marital status? | | | | | |
| Do you think it works well for those using it? | | | | | |
| Do you think the disadvantages outweigh the advantages? | | | | | |

37. What is your perception on the reliability of the use of contraceptives? (a) Highly reliable , (b) Reliable , (c) Unreliable , (d) Very unreliable , (e) Can't tell
38. Are there negative implications of the use of contraceptives Yes No Not sure

SECTION D: Ways sexually active women meet utilize and meet their family planning needs

39. What methods have you used in planning or preventing pregnancy.....
40. Was your decision to use any of the above methods influenced by your socio demographic background Yes No
41. Was your decision to use any of the above methods influenced by the availability in your health facility? Yes No
42. Was your decision to use any of the above methods influenced by cost? Yes No
43. Kindly tick the family planning method that matches your age range from the under listed.

| S/N | Age | None | Traditional | Modern Method |
|-----|-------------|------|-------------|---------------|
| 1 | 15-19 years | | | |
| 2 | 20-24 years | | | |
| 3 | 25-29 years | | | |
| 4 | 30-34 years | | | |
| 5 | 35-39 years | | | |
| 6 | 40-45 years | | | |
| 7 | 45-49 years | | | |

44. If your response is none to the above question, what was your reason for none usage Ideal [] Not Ideal [] Indifferent [] Others []
Specify_____

SECTION E: Unmet needs and constraints to effective access to improved sexual and reproductive health services

45. Please tick which of the following constraints have you experienced in accessing under the appropriate options, the constraints to effective access to improved sexual and reproductive health services in your area.

| Constraints to effective accessibility and utilization of improved sexual and reproductive health services | Very high | High | Average | Low | Very low |
|------------------------------------------------------------------------------------------------------------|-----------|------|---------|-----|----------|
| Inadequate information about the services | | | | | |
| Behavior of the healthcare provider/personnel | | | | | |
| Judgmental attitude of the provider/personnel | | | | | |
| Breaking privacy and confidentiality | | | | | |
| Poor provider competency (doesn't know what to do) | | | | | |
| Shortage of drugs and medical supplies | | | | | |
| Cultural, social and religious stigmatization | | | | | |
| Physical inaccessibility to health facility: Road too bad | | | | | |
| Distance to health facility too far | | | | | |
| Long distance from home to health facility | | | | | |
| No means of transportation to health facility | | | | | |
| high cost of services | | | | | |
| No money | | | | | |
| No encouragement or support from my partner | | | | | |

46. Is everything about unintended pregnancy bad? Yes [] No [] Not sure []

SECTION F: Effects of unintended pregnancies on the wellbeing of women/children

47. Are there negative effects of unintended pregnancy? Yes [] No [] Not sure []

48. Have you ever experienced any negative consequence of unintended pregnancy? Yes [] No []

49. If yes to the question above, which of these negative consequences of unintended pregnancy did you experience?

| Effects of unintended pregnancies on the wellbeing of women/children | Extent of Agreement/Disagreement on Effects | | | | |
|----------------------------------------------------------------------|---------------------------------------------|------|----------|-----|----------|
| | Very High | High | Moderate | Low | Very Low |
| Unsafe abortion | | | | | |
| High blood pressure/hypertension in mother | | | | | |

| | | | | | |
|-------------------------------------------------------|--|--|--|--|--|
| Maternal mortality | | | | | |
| Morbidity | | | | | |
| Child under nutrition/malnutrition | | | | | |
| Mental illness/emotional stress on the mother | | | | | |
| Easy pathway to mother-to-child HIV/AIDS transmission | | | | | |
| Reduction in women's quality of life | | | | | |
| Exposure of household to economic insecurity | | | | | |

50. To what extent do you agree on the effects of unintended pregnancies on your total wellbeing? (a) Very High [] (b) High [] (c) Moderate [] (d) Low [] (e) Undecided []
51. What impact does unintended pregnancy have on Infants (1month-1year) (a) Very High [] (b) High [] (c) Moderate [] (d) Low [] (e) Undecided []
52. What impact does unintended pregnancy have on Toddlers (1-3years) ((a) Very High [] (b) High [] (c) Moderate [] (d) Low [] (e) Undecided []
53. What impact does unintended pregnancy have on Pre-school and school age children (3-12years) (a) Very High [] (b) High [] (c) Moderate [] (d) Low [] (e) Undecided []
54. What impact does unintended pregnancy have on Adolescent (12-18years) (a) Very High [] (b) High [] (c) Moderate [] (d) Low [] (e) Undecided []

Thank you.

APPENDIX 2
INTERVIEW SCHEDULE (Health Facilities)

GPS Coordinate

Name and Location of facility

1. Gender of respondent _____

2. Position of respondent _____

3. Job description of respondent: _____

4. How would you describe the population size of the Country?

| | | | |
|--------------------------|----------|--------------------------|---------|
| <input type="checkbox"/> | Too high | <input type="checkbox"/> | Optimum |
| <input type="checkbox"/> | High | <input type="checkbox"/> | Low |

Why? _____

5. How would you describe the population size of Edo State?

| | | | |
|--------------------------|----------|--------------------------|---------|
| <input type="checkbox"/> | Too high | <input type="checkbox"/> | Optimum |
| <input type="checkbox"/> | High | <input type="checkbox"/> | Low |

Why?

6. What do you see as the main consequences of uncontrolled and continuous population growth?

7. What do you think should be done to slow rapid population growth? If you have more than one suggestion, please rank in order of most important or having the greatest impact.

8. Does this facility offer family planning services and how many days of the week?

| | |
|--------------------------|-----------------|
| <input type="checkbox"/> | 1. Yes |
| <input type="checkbox"/> | 2. No |
| <input type="checkbox"/> | 3. I don't know |

Please explain your answer.

9. What type of family planning services does your facility offer?

10. How is the demand for family Planning services?

| | |
|--------------------------|--------------|
| <input type="checkbox"/> | 1. Very high |
|--------------------------|--------------|

- | | |
|--------------------------|---------------------|
| <input type="checkbox"/> | 2. High |
| <input type="checkbox"/> | 3. Average |
| <input type="checkbox"/> | 4. Low |
| <input type="checkbox"/> | 5. Other (SPECIFY): |
-

11. List the family planning methods offered in this facility

- i.
- ii.
- iii.
- iv.
- v.
- vi.

12. What are the factors that influence family planning decision

- i.
- ii.
- iii.
- iv.
- v.
- vi.

13. What is the role of Government in provision and promotion of family planning methods

.....

14. Does your facility offer training and counselling services on family planning

15. Do women who come for family planning advice raise any concerns?

- | | |
|--------------------------|--------------|
| <input type="checkbox"/> | Yes |
| <input type="checkbox"/> | No |
| <input type="checkbox"/> | I don't know |

16. If yes to the above question, what are these concerns?

.....
.....
.....
.....
.....

17. How you do rate the number of women coming for antenatal services with that of family planning services?

18. What family planning methods are available?

19. Have you recorded cases of women who became pregnant as a result of failed modern family planning methods?

20. If yes to the above, which method failed?

.....
.....
.....

21. Are family planning services offered free in this facility?

22. If yes to the above, what is the financial implication

.....
.....

23. Does the cost of seeking family planning services influence the decision to go for it or not?

24. What are the barriers, critics and problems to offering family planning services in this facility

.....
.....
.....

25. In your opinion, is there a need to improve the awareness level on modern methods of preventing pregnancies?

- | | |
|--------------------------|-----------------|
| <input type="checkbox"/> | 1. Yes |
| <input type="checkbox"/> | 2. No |
| <input type="checkbox"/> | 3. I don't know |

26. Do you believe there is a relationship between family planning and achieving the Sustainable Development Goals?

Yes [] No [] don't know []

27. Do you think family planning could play a role in helping to achieve this Sustainable Development Goal 3, Target 7; Ensure universal access to sexual and reproductive health-care services
 Yes [], No [], Don't know []

28. Do you think religion and culture has a strong influence on family planning decisions?
 Yes
 No
 I don't know

29. If yes to the above question, how would you address the issue of religion and culture as it pertains to family planning

30. How would you describe the use of family planning in Edo South?
 Too high [], High [], Just right [], Low [], Too low []
 Why?

31. What are the most important FP priorities in this LGA(Probe for Community based family planning, Long acting permanent method , LAM, any other natural method)

32. Who is currently funding family planning activities in the LGA?

33. How do you feel about the level of funding for family planning that is provided by the government? Is it too little [], enough [], too much []?

34. Is there a family planning project that is ongoing in the LGA? Yes [] No [] Don't know []

35. If Yes, is it Public/ Private funded?

36. What do you think the role of the government should be in supporting family planning?
 a. Setting legal and policy frameworks [] b. Creating service standards/protocols []
 c. Providing services through government facilities [] d. Providing special adolescent focused services [] e. Providing contraceptives and other FP commodities [] f.

Supporting information, education, and communication (behavior change communication) programs []

g. Other _____

37. On a scale of 1 to 10, how important is family planning in achieving the LGA's development goals with 1 being not very important and 10 being very important?

.....
.....
.....
.....

38. In your own view, what are the barriers to people in the LGA not wanting to use family planning services?

39. From your experience as a health practitioner, are there couples who would like to use modern method of family planning, but are not currently using any method? a) Yes [] b) No [] c) Don't know []

40. Would you say that the percentage of women who would like to use a method of family planning, but are not using any method is: a) < 5% [], b) between 5%-10% [], c) between 10%-20% [], d) >20% []

41. In your opinion, is there a relationship between use of family planning and women's health? Yes [] No [] Don't know []

42. If yes, ask: What is the relationship (or the links) between family planning and women's health?

43. What are the possible barriers to integrating family planning into the following health services: Maternal, Neonatal Health and Postpartum Care

.....
.....

44. What information does your facility need to increase family planning use and awareness?

.....
.....

45. Give recommendations to meet the family planning set target of the state/country and prevent unintended pregnancy.

.....
.....
.....
.....
.....
.....
.....
.....

Thank you.

APPENDIX 3

Multiple Comparisons

Dependent Variable: Yes, Number of Times

Tukey HSD

| (I) Name of Community | (J) Name of Community | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval | |
|-----------------------|-----------------------|-----------------------|------------|--------|-------------------------|-------------|
| | | | | | Lower Bound | Upper Bound |
| Ugbowo | Uselu | .07065 | .23639 | 1.000 | -.7975 | .9388 |
| | Obayantor | .32065 | .23639 | .999 | -.5475 | 1.1888 |
| | Aduwawa | .59888* | .15849 | .036 | .0168 | 1.1810 |
| | Ukpato | .69565 | .42456 | .993 | -.8636 | 2.2549 |
| | New Benin | .27899 | .20508 | .999 | -.4742 | 1.0322 |
| | Oghede | .29565 | .21814 | .999 | -.5055 | 1.0968 |
| | Okada | .12422 | .24860 | 1.000 | -.7888 | 1.0372 |
| | Isiuwa | .36232 | .26400 | .999 | -.6073 | 1.3319 |
| | Uhiera | .69565 | .35352 | .943 | -.6027 | 1.9940 |
| | Iguobazuwa | .69565 | .35352 | .943 | -.6027 | 1.9940 |
| | Udo | .69565 | .42456 | .993 | -.8636 | 2.2549 |
| | Abudu | -.47101 | .26400 | .980 | -1.4406 | .4986 |
| | Obagie | .36232 | .35352 | 1.000 | -.9360 | 1.6607 |
| | Useh | .52899 | .26400 | .932 | -.4406 | 1.4986 |
| | Idogbo | -.05435 | .23639 | 1.000 | -.9225 | .8138 |
| | Ehor | .69565 | .35352 | .943 | -.6027 | 1.9940 |
| | Ikpokpan | .32723 | .17854 | .972 | -.3285 | .9829 |
| | Eyaen | .64010 | .18124 | .076 | -.0255 | 1.3057 |
| | Oka | .26708 | .24860 | 1.000 | -.6459 | 1.1801 |
| | Oghoghobi | .40994 | .24860 | .992 | -.5031 | 1.3230 |
| Ologbo | .69565 | .31199 | .834 | -.4502 | 1.8415 | |
| Obaretin | .36232 | .26400 | .999 | -.6073 | 1.3319 | |
| Uselu | Ugbowo | -.07065 | .23639 | 1.000 | -.9388 | .7975 |
| | Obayantor | .25000 | .28795 | 1.000 | -.8076 | 1.3076 |
| | Aduwawa | .52823 | .22838 | .785 | -.3105 | 1.3670 |
| | Ukpato | .62500 | .45529 | .999 | -1.0471 | 2.2971 |
| | New Benin | .20833 | .26286 | 1.000 | -.7571 | 1.1737 |
| | Oghede | .22500 | .27318 | 1.000 | -.7783 | 1.2283 |
| | Okada | .05357 | .29806 | 1.000 | -1.0411 | 1.1482 |
| | Isiuwa | .29167 | .31102 | 1.000 | -.8506 | 1.4340 |

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|------------------|------------|----------|--------|-------|---------|--------|
| | Uhiera | .62500 | .38989 | .994 | -.8069 | 2.0569 |
| | Iguobazuwa | .62500 | .38989 | .994 | -.8069 | 2.0569 |
| | Udo | .62500 | .45529 | .999 | -1.0471 | 2.2971 |
| | Abudu | -.54167 | .31102 | .984 | -1.6840 | .6006 |
| | Obagie | .29167 | .38989 | 1.000 | -1.1403 | 1.7236 |
| | Useh | .45833 | .31102 | .998 | -.6840 | 1.6006 |
| | Idogbo | -.12500 | .28795 | 1.000 | -1.1826 | .9326 |
| | Ehor | .62500 | .38989 | .994 | -.8069 | 2.0569 |
| | Ikpokpan | .25658 | .24272 | 1.000 | -.6349 | 1.1480 |
| | Eyaen | .56944 | .24471 | .776 | -.3293 | 1.4682 |
| | Oka | .19643 | .29806 | 1.000 | -.8982 | 1.2911 |
| | Oghoghobi | .33929 | .29806 | 1.000 | -.7554 | 1.4340 |
| | Ologbo | .62500 | .35267 | .981 | -.6702 | 1.9202 |
| | Obaretin | .29167 | .31102 | 1.000 | -.8506 | 1.4340 |
| Obayantor | Ugbowo | -.32065 | .23639 | .999 | -1.1888 | .5475 |
| | Uselu | -.25000 | .28795 | 1.000 | -1.3076 | .8076 |
| | Aduwawa | .27823 | .22838 | 1.000 | -.5605 | 1.1170 |
| | Ukpato | .37500 | .45529 | 1.000 | -1.2971 | 2.0471 |
| | New Benin | -.04167 | .26286 | 1.000 | -1.0071 | .9237 |
| | Oghede | -.02500 | .27318 | 1.000 | -1.0283 | .9783 |
| | Okada | -.19643 | .29806 | 1.000 | -1.2911 | .8982 |
| | Isiuwa | .04167 | .31102 | 1.000 | -1.1006 | 1.1840 |
| | Uhiera | .37500 | .38989 | 1.000 | -1.0569 | 1.8069 |
| | Iguobazuwa | .37500 | .38989 | 1.000 | -1.0569 | 1.8069 |
| | Udo | .37500 | .45529 | 1.000 | -1.2971 | 2.0471 |
| | Abudu | -.79167 | .31102 | .619 | -1.9340 | .3506 |
| | Obagie | .04167 | .38989 | 1.000 | -1.3903 | 1.4736 |
| | Useh | .20833 | .31102 | 1.000 | -.9340 | 1.3506 |
| | Idogbo | -.37500 | .28795 | 1.000 | -1.4326 | .6826 |
| | Ehor | .37500 | .38989 | 1.000 | -1.0569 | 1.8069 |
| | Ikpokpan | .00658 | .24272 | 1.000 | -.8849 | .8980 |
| | Eyaen | .31944 | .24471 | 1.000 | -.5793 | 1.2182 |
| | Oka | -.05357 | .29806 | 1.000 | -1.1482 | 1.0411 |
| | Oghoghobi | .08929 | .29806 | 1.000 | -1.0054 | 1.1840 |
| | Ologbo | .37500 | .35267 | 1.000 | -.9202 | 1.6702 |
| | Obaretin | .04167 | .31102 | 1.000 | -1.1006 | 1.1840 |
| Aduwawa | Ugbowo | -.59888* | .15849 | .036 | -1.1810 | -.0168 |
| | Uselu | -.52823 | .22838 | .785 | -1.3670 | .3105 |
| | Obayantor | -.27823 | .22838 | 1.000 | -1.1170 | .5605 |

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|--------|------------|-----------|--------|-------|---------|--------|
| | Ukpato | .09677 | .42016 | 1.000 | -1.4463 | 1.6399 |
| | New Benin | -.31989 | .19580 | .993 | -1.0390 | .3992 |
| | Oghede | -.30323 | .20944 | .999 | -1.0724 | .4660 |
| | Okada | -.47465 | .24100 | .943 | -1.3598 | .4104 |
| | Isiuwa | -.23656 | .25686 | 1.000 | -1.1799 | .7068 |
| | Uhieri | .09677 | .34822 | 1.000 | -1.1821 | 1.3757 |
| | Iguobazuwa | .09677 | .34822 | 1.000 | -1.1821 | 1.3757 |
| | Udo | .09677 | .42016 | 1.000 | -1.4463 | 1.6399 |
| | Abudu | -1.06989* | .25686 | .009 | -2.0132 | -.1265 |
| | Obagie | -.23656 | .34822 | 1.000 | -1.5154 | 1.0423 |
| | Useh | -.06989 | .25686 | 1.000 | -1.0132 | .8735 |
| | Idogbo | -.65323 | .22838 | .382 | -1.4920 | .1855 |
| | Ehor | .09677 | .34822 | 1.000 | -1.1821 | 1.3757 |
| | Ikpokpan | -.27165 | .16780 | .994 | -.8879 | .3446 |
| | Eyaen | .04122 | .17066 | 1.000 | -.5856 | .6680 |
| | Oka | -.33180 | .24100 | .999 | -1.2169 | .5533 |
| | Oghoghobi | -.18894 | .24100 | 1.000 | -1.0740 | .6962 |
| | Ologbo | .09677 | .30597 | 1.000 | -1.0269 | 1.2205 |
| | Obaretin | -.23656 | .25686 | 1.000 | -1.1799 | .7068 |
| Ukpato | Ugbowo | -.69565 | .42456 | .993 | -2.2549 | .8636 |
| | Uselu | -.62500 | .45529 | .999 | -2.2971 | 1.0471 |
| | Obayantor | -.37500 | .45529 | 1.000 | -2.0471 | 1.2971 |
| | Aduwawa | -.09677 | .42016 | 1.000 | -1.6399 | 1.4463 |
| | New Benin | -.41667 | .43986 | 1.000 | -2.0321 | 1.1988 |
| | Oghede | -.40000 | .44609 | 1.000 | -2.0384 | 1.2384 |
| | Okada | -.57143 | .46175 | 1.000 | -2.2673 | 1.1244 |
| | Isiuwa | -.33333 | .47023 | 1.000 | -2.0603 | 1.3936 |
| | Uhieri | .00000 | .52573 | 1.000 | -1.9308 | 1.9308 |
| | Iguobazuwa | .00000 | .52573 | 1.000 | -1.9308 | 1.9308 |
| | Udo | .00000 | .57591 | 1.000 | -2.1151 | 2.1151 |
| | Abudu | -1.16667 | .47023 | .668 | -2.8936 | .5603 |
| | Obagie | -.33333 | .52573 | 1.000 | -2.2641 | 1.5975 |
| | Useh | -.16667 | .47023 | 1.000 | -1.8936 | 1.5603 |
| | Idogbo | -.75000 | .45529 | .992 | -2.4221 | .9221 |
| | Ehor | .00000 | .52573 | 1.000 | -1.9308 | 1.9308 |
| | Ikpokpan | -.36842 | .42812 | 1.000 | -1.9408 | 1.2039 |
| | Eyaen | -.05556 | .42926 | 1.000 | -1.6321 | 1.5209 |
| | Oka | -.42857 | .46175 | 1.000 | -2.1244 | 1.2673 |
| | Oghoghobi | -.28571 | .46175 | 1.000 | -1.9816 | 1.4101 |

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|------------|------------|-----------|---------|--------|---------|---------|--------|
| | Ologbo | .00000 | .49875 | 1.000 | -1.8317 | 1.8317 | |
| | Obaretin | -.33333 | .47023 | 1.000 | -2.0603 | 1.3936 | |
| New Benin | Ugbowo | -.27899 | .20508 | .999 | -1.0322 | .4742 | |
| | Urelu | -.20833 | .26286 | 1.000 | -1.1737 | .7571 | |
| | Obayantor | .04167 | .26286 | 1.000 | -.9237 | 1.0071 | |
| | Aduwawa | .31989 | .19580 | .993 | -.3992 | 1.0390 | |
| | Ukpato | .41667 | .43986 | 1.000 | -1.1988 | 2.0321 | |
| | Oghede | .01667 | .24659 | 1.000 | -.8890 | .9223 | |
| | Okada | -.15476 | .27390 | 1.000 | -1.1607 | .8512 | |
| | Isiuwa | .08333 | .28795 | 1.000 | -.9742 | 1.1409 | |
| | Uhier | .41667 | .37175 | 1.000 | -.9486 | 1.7820 | |
| | Iguobazuwa | .41667 | .37175 | 1.000 | -.9486 | 1.7820 | |
| | Udo | .41667 | .43986 | 1.000 | -1.1988 | 2.0321 | |
| | Abudu | -.75000 | .28795 | .574 | -1.8076 | .3076 | |
| | Obagie | .08333 | .37175 | 1.000 | -1.2820 | 1.4486 | |
| | Useh | .25000 | .28795 | 1.000 | -.8076 | 1.3076 | |
| | Idogbo | -.33333 | .26286 | 1.000 | -1.2987 | .6321 | |
| | Ehor | .41667 | .37175 | 1.000 | -.9486 | 1.7820 | |
| | Ikpokpan | .04825 | .21236 | 1.000 | -.7317 | .8282 | |
| | Eyaen | .36111 | .21463 | .990 | -.4271 | 1.1494 | |
| | Oka | -.01190 | .27390 | 1.000 | -1.0178 | .9940 | |
| | Oghoghobi | .13095 | .27390 | 1.000 | -.8750 | 1.1369 | |
| | Ologbo | .41667 | .33250 | 1.000 | -.8045 | 1.6378 | |
| | Obaretin | .08333 | .28795 | 1.000 | -.9742 | 1.1409 | |
| | Oghede | Ugbowo | -.29565 | .21814 | .999 | -1.0968 | .5055 |
| | | Urelu | -.22500 | .27318 | 1.000 | -1.2283 | .7783 |
| | | Obayantor | .02500 | .27318 | 1.000 | -.9783 | 1.0283 |
| | | Aduwawa | .30323 | .20944 | .999 | -.4660 | 1.0724 |
| Ukpato | | .40000 | .44609 | 1.000 | -1.2384 | 2.0384 | |
| New Benin | | -.01667 | .24659 | 1.000 | -.9223 | .8890 | |
| Okada | | -.17143 | .28381 | 1.000 | -1.2138 | .8709 | |
| Isiuwa | | .06667 | .29740 | 1.000 | -1.0256 | 1.1589 | |
| Uhier | | .40000 | .37911 | 1.000 | -.9923 | 1.7923 | |
| Iguobazuwa | | .40000 | .37911 | 1.000 | -.9923 | 1.7923 | |
| Udo | | .40000 | .44609 | 1.000 | -1.2384 | 2.0384 | |
| Abudu | | -.76667 | .29740 | .594 | -1.8589 | .3256 | |
| Obagie | | .06667 | .37911 | 1.000 | -1.3257 | 1.4590 | |
| Useh | | .23333 | .29740 | 1.000 | -.8589 | 1.3256 | |
| Idogbo | | -.35000 | .27318 | 1.000 | -1.3533 | .6533 | |

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|---------------|------------|---------|--------|-------|---------|--------|
| | Ehor | .40000 | .37911 | 1.000 | -.9923 | 1.7923 |
| | Ikpokpan | .03158 | .22500 | 1.000 | -.7948 | .8579 |
| | Eyaen | .34444 | .22714 | .997 | -.4898 | 1.1787 |
| | Oka | -.02857 | .28381 | 1.000 | -1.0709 | 1.0138 |
| | Oghoghobi | .11429 | .28381 | 1.000 | -.9280 | 1.1566 |
| | Ologbo | .40000 | .34071 | 1.000 | -.8513 | 1.6513 |
| | Obaretin | .06667 | .29740 | 1.000 | -1.0256 | 1.1589 |
| Okada | Ugbowo | -.12422 | .24860 | 1.000 | -1.0372 | .7888 |
| | Uselu | -.05357 | .29806 | 1.000 | -1.1482 | 1.0411 |
| | Obayantor | .19643 | .29806 | 1.000 | -.8982 | 1.2911 |
| | Aduwawa | .47465 | .24100 | .943 | -.4104 | 1.3598 |
| | Ukpato | .57143 | .46175 | 1.000 | -1.1244 | 2.2673 |
| | New Benin | .15476 | .27390 | 1.000 | -.8512 | 1.1607 |
| | Oghede | .17143 | .28381 | 1.000 | -.8709 | 1.2138 |
| | Isiuwa | .23810 | .32040 | 1.000 | -.9386 | 1.4148 |
| | Uhiere | .57143 | .39741 | .999 | -.8881 | 2.0310 |
| | Iguobazuwa | .57143 | .39741 | .999 | -.8881 | 2.0310 |
| | Udo | .57143 | .46175 | 1.000 | -1.1244 | 2.2673 |
| | Abudu | -.59524 | .32040 | .968 | -1.7720 | .5815 |
| | Obagie | .23810 | .39741 | 1.000 | -1.2215 | 1.6977 |
| | Useh | .40476 | .32040 | 1.000 | -.7720 | 1.5815 |
| | Idogbo | -.17857 | .29806 | 1.000 | -1.2732 | .9161 |
| | Ehor | .57143 | .39741 | .999 | -.8881 | 2.0310 |
| | Ikpokpan | .20301 | .25463 | 1.000 | -.7322 | 1.1382 |
| | Eyaen | .51587 | .25653 | .930 | -.4263 | 1.4580 |
| | Oka | .14286 | .30783 | 1.000 | -.9877 | 1.2734 |
| | Oghoghobi | .28571 | .30783 | 1.000 | -.8449 | 1.4163 |
| | Ologbo | .57143 | .36097 | .995 | -.7543 | 1.8971 |
| | Obaretin | .23810 | .32040 | 1.000 | -.9386 | 1.4148 |
| Isiuwa | Ugbowo | -.36232 | .26400 | .999 | -1.3319 | .6073 |
| | Uselu | -.29167 | .31102 | 1.000 | -1.4340 | .8506 |
| | Obayantor | -.04167 | .31102 | 1.000 | -1.1840 | 1.1006 |
| | Aduwawa | .23656 | .25686 | 1.000 | -.7068 | 1.1799 |
| | Ukpato | .33333 | .47023 | 1.000 | -1.3936 | 2.0603 |
| | New Benin | -.08333 | .28795 | 1.000 | -1.1409 | .9742 |
| | Oghede | -.06667 | .29740 | 1.000 | -1.1589 | 1.0256 |
| | Okada | -.23810 | .32040 | 1.000 | -1.4148 | .9386 |
| | Uhiere | .33333 | .40723 | 1.000 | -1.1623 | 1.8289 |
| | Iguobazuwa | .33333 | .40723 | 1.000 | -1.1623 | 1.8289 |

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|-------------------|------------|----------|--------|-------|---------|--------|
| | Udo | .33333 | .47023 | 1.000 | -1.3936 | 2.0603 |
| | Abudu | -.83333 | .33250 | .649 | -2.0545 | .3878 |
| | Obagie | .00000 | .40723 | 1.000 | -1.4956 | 1.4956 |
| | Useh | .16667 | .33250 | 1.000 | -1.0545 | 1.3878 |
| | Idogbo | -.41667 | .31102 | 1.000 | -1.5590 | .7256 |
| | Ehor | .33333 | .40723 | 1.000 | -1.1623 | 1.8289 |
| | Ikpokpan | -.03509 | .26969 | 1.000 | -1.0256 | .9554 |
| | Eyaen | .27778 | .27148 | 1.000 | -.7193 | 1.2748 |
| | Oka | -.09524 | .32040 | 1.000 | -1.2720 | 1.0815 |
| | Oghoghobi | .04762 | .32040 | 1.000 | -1.1291 | 1.2244 |
| | Ologbo | .33333 | .37175 | 1.000 | -1.0320 | 1.6986 |
| | Obaretin | .00000 | .33250 | 1.000 | -1.2212 | 1.2212 |
| Uhiere | Ugbowo | -.69565 | .35352 | .943 | -1.9940 | .6027 |
| | Uselu | -.62500 | .38989 | .994 | -2.0569 | .8069 |
| | Obayantor | -.37500 | .38989 | 1.000 | -1.8069 | 1.0569 |
| | Aduwawa | -.09677 | .34822 | 1.000 | -1.3757 | 1.1821 |
| | Ukpato | .00000 | .52573 | 1.000 | -1.9308 | 1.9308 |
| | New Benin | -.41667 | .37175 | 1.000 | -1.7820 | .9486 |
| | Oghede | -.40000 | .37911 | 1.000 | -1.7923 | .9923 |
| | Okada | -.57143 | .39741 | .999 | -2.0310 | .8881 |
| | Isiuwa | -.33333 | .40723 | 1.000 | -1.8289 | 1.1623 |
| | Iguobazuwa | .00000 | .47023 | 1.000 | -1.7270 | 1.7270 |
| | Udo | .00000 | .52573 | 1.000 | -1.9308 | 1.9308 |
| | Abudu | -1.16667 | .40723 | .379 | -2.6623 | .3289 |
| | Obagie | -.33333 | .47023 | 1.000 | -2.0603 | 1.3936 |
| | Useh | -.16667 | .40723 | 1.000 | -1.6623 | 1.3289 |
| | Idogbo | -.75000 | .38989 | .954 | -2.1819 | .6819 |
| | Ehor | .00000 | .47023 | 1.000 | -1.7270 | 1.7270 |
| | Ikpokpan | -.36842 | .35779 | 1.000 | -1.6825 | .9456 |
| | Eyaen | -.05556 | .35914 | 1.000 | -1.3746 | 1.2634 |
| | Oka | -.42857 | .39741 | 1.000 | -1.8881 | 1.0310 |
| | Oghoghobi | -.28571 | .39741 | 1.000 | -1.7453 | 1.1738 |
| | Ologbo | .00000 | .43986 | 1.000 | -1.6154 | 1.6154 |
| | Obaretin | -.33333 | .40723 | 1.000 | -1.8289 | 1.1623 |
| Iguobazuwa | Ugbowo | -.69565 | .35352 | .943 | -1.9940 | .6027 |
| | Uselu | -.62500 | .38989 | .994 | -2.0569 | .8069 |
| | Obayantor | -.37500 | .38989 | 1.000 | -1.8069 | 1.0569 |
| | Aduwawa | -.09677 | .34822 | 1.000 | -1.3757 | 1.1821 |
| | Ukpato | .00000 | .52573 | 1.000 | -1.9308 | 1.9308 |

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|-----|------------|----------|--------|-------|---------|--------|
| | New Benin | -.41667 | .37175 | 1.000 | -1.7820 | .9486 |
| | Oghede | -.40000 | .37911 | 1.000 | -1.7923 | .9923 |
| | Okada | -.57143 | .39741 | .999 | -2.0310 | .8881 |
| | Isiuwa | -.33333 | .40723 | 1.000 | -1.8289 | 1.1623 |
| | Uhiere | .00000 | .47023 | 1.000 | -1.7270 | 1.7270 |
| | Udo | .00000 | .52573 | 1.000 | -1.9308 | 1.9308 |
| | Abudu | -1.16667 | .40723 | .379 | -2.6623 | .3289 |
| | Obagie | -.33333 | .47023 | 1.000 | -2.0603 | 1.3936 |
| | Useh | -.16667 | .40723 | 1.000 | -1.6623 | 1.3289 |
| | Idogbo | -.75000 | .38989 | .954 | -2.1819 | .6819 |
| | Ehor | .00000 | .47023 | 1.000 | -1.7270 | 1.7270 |
| | Ikpokpan | -.36842 | .35779 | 1.000 | -1.6825 | .9456 |
| | Eyaen | -.05556 | .35914 | 1.000 | -1.3746 | 1.2634 |
| | Oka | -.42857 | .39741 | 1.000 | -1.8881 | 1.0310 |
| | Oghoghobi | -.28571 | .39741 | 1.000 | -1.7453 | 1.1738 |
| | Ologbo | .00000 | .43986 | 1.000 | -1.6154 | 1.6154 |
| | Obaretin | -.33333 | .40723 | 1.000 | -1.8289 | 1.1623 |
| Udo | Ugbowo | -.69565 | .42456 | .993 | -2.2549 | .8636 |
| | Uselu | -.62500 | .45529 | .999 | -2.2971 | 1.0471 |
| | Obayantor | -.37500 | .45529 | 1.000 | -2.0471 | 1.2971 |
| | Aduwawa | -.09677 | .42016 | 1.000 | -1.6399 | 1.4463 |
| | Ukpato | .00000 | .57591 | 1.000 | -2.1151 | 2.1151 |
| | New Benin | -.41667 | .43986 | 1.000 | -2.0321 | 1.1988 |
| | Oghede | -.40000 | .44609 | 1.000 | -2.0384 | 1.2384 |
| | Okada | -.57143 | .46175 | 1.000 | -2.2673 | 1.1244 |
| | Isiuwa | -.33333 | .47023 | 1.000 | -2.0603 | 1.3936 |
| | Uhiere | .00000 | .52573 | 1.000 | -1.9308 | 1.9308 |
| | Iguobazuwa | .00000 | .52573 | 1.000 | -1.9308 | 1.9308 |
| | Abudu | -1.16667 | .47023 | .668 | -2.8936 | .5603 |
| | Obagie | -.33333 | .52573 | 1.000 | -2.2641 | 1.5975 |
| | Useh | -.16667 | .47023 | 1.000 | -1.8936 | 1.5603 |
| | Idogbo | -.75000 | .45529 | .992 | -2.4221 | .9221 |
| | Ehor | .00000 | .52573 | 1.000 | -1.9308 | 1.9308 |
| | Ikpokpan | -.36842 | .42812 | 1.000 | -1.9408 | 1.2039 |
| | Eyaen | -.05556 | .42926 | 1.000 | -1.6321 | 1.5209 |
| | Oka | -.42857 | .46175 | 1.000 | -2.1244 | 1.2673 |
| | Oghoghobi | -.28571 | .46175 | 1.000 | -1.9816 | 1.4101 |
| | Ologbo | .00000 | .49875 | 1.000 | -1.8317 | 1.8317 |
| | Obaretin | -.33333 | .47023 | 1.000 | -2.0603 | 1.3936 |

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|---------------|-------------------|-----------------|---------------|--------------|----------------|---------------|
| Abudu | Ugbowo | .47101 | .26400 | .980 | -.4986 | 1.4406 |
| | Uselu | .54167 | .31102 | .984 | -.6006 | 1.6840 |
| | Obayantor | .79167 | .31102 | .619 | -.3506 | 1.9340 |
| | Aduwawa | 1.06989* | .25686 | .009 | .1265 | 2.0132 |
| | Ukpato | 1.16667 | .47023 | .668 | -.5603 | 2.8936 |
| | New Benin | .75000 | .28795 | .574 | -.3076 | 1.8076 |
| | Oghede | .76667 | .29740 | .594 | -.3256 | 1.8589 |
| | Okada | .59524 | .32040 | .968 | -.5815 | 1.7720 |
| | Isiuwa | .83333 | .33250 | .649 | -.3878 | 2.0545 |
| | Uhiere | 1.16667 | .40723 | .379 | -.3289 | 2.6623 |
| | Iguobazuwa | 1.16667 | .40723 | .379 | -.3289 | 2.6623 |
| | Udo | 1.16667 | .47023 | .668 | -.5603 | 2.8936 |
| | Obagie | .83333 | .40723 | .918 | -.6623 | 2.3289 |
| | Useh | 1.00000 | .33250 | .286 | -.2212 | 2.2212 |
| | Idogbo | .41667 | .31102 | 1.000 | -.7256 | 1.5590 |
| | Ehor | 1.16667 | .40723 | .379 | -.3289 | 2.6623 |
| | Ikpokpan | .79825 | .26969 | .316 | -.1922 | 1.7887 |
| | Eyaen | 1.11111* | .27148 | .012 | .1140 | 2.1082 |
| | Oka | .73810 | .32040 | .791 | -.4386 | 1.9148 |
| | Oghoghobi | .88095 | .32040 | .463 | -.2958 | 2.0577 |
| | Ologbo | 1.16667 | .37175 | .215 | -.1986 | 2.5320 |
| | Obaretin | .83333 | .33250 | .649 | -.3878 | 2.0545 |
| Obagie | Ugbowo | -.36232 | .35352 | 1.000 | -1.6607 | .9360 |
| | Uselu | -.29167 | .38989 | 1.000 | -1.7236 | 1.1403 |
| | Obayantor | -.04167 | .38989 | 1.000 | -1.4736 | 1.3903 |
| | Aduwawa | .23656 | .34822 | 1.000 | -1.0423 | 1.5154 |
| | Ukpato | .33333 | .52573 | 1.000 | -1.5975 | 2.2641 |
| | New Benin | -.08333 | .37175 | 1.000 | -1.4486 | 1.2820 |
| | Oghede | -.06667 | .37911 | 1.000 | -1.4590 | 1.3257 |
| | Okada | -.23810 | .39741 | 1.000 | -1.6977 | 1.2215 |
| | Isiuwa | .00000 | .40723 | 1.000 | -1.4956 | 1.4956 |
| | Uhiere | .33333 | .47023 | 1.000 | -1.3936 | 2.0603 |
| | Iguobazuwa | .33333 | .47023 | 1.000 | -1.3936 | 2.0603 |
| | Udo | .33333 | .52573 | 1.000 | -1.5975 | 2.2641 |
| | Abudu | -.83333 | .40723 | .918 | -2.3289 | .6623 |
| | Useh | .16667 | .40723 | 1.000 | -1.3289 | 1.6623 |
| | Idogbo | -.41667 | .38989 | 1.000 | -1.8486 | 1.0153 |
| | Ehor | .33333 | .47023 | 1.000 | -1.3936 | 2.0603 |
| | Ikpokpan | -.03509 | .35779 | 1.000 | -1.3491 | 1.2789 |

| | | | | | | |
|------------|------------|----------|--------|--------|---------|--------|
| | Eyaen | .27778 | .35914 | 1.000 | -1.0412 | 1.5968 |
| | Oka | -.09524 | .39741 | 1.000 | -1.5548 | 1.3643 |
| | Oghoghobi | .04762 | .39741 | 1.000 | -1.4119 | 1.5072 |
| | Ologbo | .33333 | .43986 | 1.000 | -1.2821 | 1.9488 |
| | Obaretin | .00000 | .40723 | 1.000 | -1.4956 | 1.4956 |
| Useh | Ugbowo | -.52899 | .26400 | .932 | -1.4986 | .4406 |
| | Uselu | -.45833 | .31102 | .998 | -1.6006 | .6840 |
| | Obayantor | -.20833 | .31102 | 1.000 | -1.3506 | .9340 |
| | Aduwawa | .06989 | .25686 | 1.000 | -.8735 | 1.0132 |
| | Ukpato | .16667 | .47023 | 1.000 | -1.5603 | 1.8936 |
| | New Benin | -.25000 | .28795 | 1.000 | -1.3076 | .8076 |
| | Oghede | -.23333 | .29740 | 1.000 | -1.3256 | .8589 |
| | Okada | -.40476 | .32040 | 1.000 | -1.5815 | .7720 |
| | Isiuwa | -.16667 | .33250 | 1.000 | -1.3878 | 1.0545 |
| | Uhiera | .16667 | .40723 | 1.000 | -1.3289 | 1.6623 |
| | Iguobazuwa | .16667 | .40723 | 1.000 | -1.3289 | 1.6623 |
| | Udo | .16667 | .47023 | 1.000 | -1.5603 | 1.8936 |
| | Abudu | -1.00000 | .33250 | .286 | -2.2212 | .2212 |
| | Obagie | -.16667 | .40723 | 1.000 | -1.6623 | 1.3289 |
| | Idogbo | -.58333 | .31102 | .965 | -1.7256 | .5590 |
| | Ehor | .16667 | .40723 | 1.000 | -1.3289 | 1.6623 |
| | Ikpokpan | -.20175 | .26969 | 1.000 | -1.1922 | .7887 |
| | Eyaen | .11111 | .27148 | 1.000 | -.8860 | 1.1082 |
| | Oka | -.26190 | .32040 | 1.000 | -1.4386 | .9148 |
| | Oghoghobi | -.11905 | .32040 | 1.000 | -1.2958 | 1.0577 |
| | Ologbo | .16667 | .37175 | 1.000 | -1.1986 | 1.5320 |
| | Obaretin | -.16667 | .33250 | 1.000 | -1.3878 | 1.0545 |
| | Idogbo | Ugbowo | .05435 | .23639 | 1.000 | -.8138 |
| Uselu | | .12500 | .28795 | 1.000 | -.9326 | 1.1826 |
| Obayantor | | .37500 | .28795 | 1.000 | -.6826 | 1.4326 |
| Aduwawa | | .65323 | .22838 | .382 | -.1855 | 1.4920 |
| Ukpato | | .75000 | .45529 | .992 | -.9221 | 2.4221 |
| New Benin | | .33333 | .26286 | 1.000 | -.6321 | 1.2987 |
| Oghede | | .35000 | .27318 | 1.000 | -.6533 | 1.3533 |
| Okada | | .17857 | .29806 | 1.000 | -.9161 | 1.2732 |
| Isiuwa | | .41667 | .31102 | 1.000 | -.7256 | 1.5590 |
| Uhiera | | .75000 | .38989 | .954 | -.6819 | 2.1819 |
| Iguobazuwa | | .75000 | .38989 | .954 | -.6819 | 2.1819 |
| Udo | | .75000 | .45529 | .992 | -.9221 | 2.4221 |

| | | | | | | |
|-----------------|------------|----------|--------|-------|---------|--------|
| | Abudu | -.41667 | .31102 | 1.000 | -1.5590 | .7256 |
| | Obagie | .41667 | .38989 | 1.000 | -1.0153 | 1.8486 |
| | Useh | .58333 | .31102 | .965 | -.5590 | 1.7256 |
| | Ehor | .75000 | .38989 | .954 | -.6819 | 2.1819 |
| | Ikpokpan | .38158 | .24272 | .996 | -.5099 | 1.2730 |
| | Eyaen | .69444 | .24471 | .398 | -.2043 | 1.5932 |
| | Oka | .32143 | .29806 | 1.000 | -.7732 | 1.4161 |
| | Oghoghobi | .46429 | .29806 | .996 | -.6304 | 1.5590 |
| | Ologbo | .75000 | .35267 | .886 | -.5452 | 2.0452 |
| | Obaretin | .41667 | .31102 | 1.000 | -.7256 | 1.5590 |
| Ehor | Ugbowo | -.69565 | .35352 | .943 | -1.9940 | .6027 |
| | Uselu | -.62500 | .38989 | .994 | -2.0569 | .8069 |
| | Obayantor | -.37500 | .38989 | 1.000 | -1.8069 | 1.0569 |
| | Aduwawa | -.09677 | .34822 | 1.000 | -1.3757 | 1.1821 |
| | Ukpato | .00000 | .52573 | 1.000 | -1.9308 | 1.9308 |
| | New Benin | -.41667 | .37175 | 1.000 | -1.7820 | .9486 |
| | Oghede | -.40000 | .37911 | 1.000 | -1.7923 | .9923 |
| | Okada | -.57143 | .39741 | .999 | -2.0310 | .8881 |
| | Isiuwa | -.33333 | .40723 | 1.000 | -1.8289 | 1.1623 |
| | Uhiere | .00000 | .47023 | 1.000 | -1.7270 | 1.7270 |
| | Iguobazuwa | .00000 | .47023 | 1.000 | -1.7270 | 1.7270 |
| | Udo | .00000 | .52573 | 1.000 | -1.9308 | 1.9308 |
| | Abudu | -1.16667 | .40723 | .379 | -2.6623 | .3289 |
| | Obagie | -.33333 | .47023 | 1.000 | -2.0603 | 1.3936 |
| | Useh | -.16667 | .40723 | 1.000 | -1.6623 | 1.3289 |
| | Idogbo | -.75000 | .38989 | .954 | -2.1819 | .6819 |
| | Ikpokpan | -.36842 | .35779 | 1.000 | -1.6825 | .9456 |
| | Eyaen | -.05556 | .35914 | 1.000 | -1.3746 | 1.2634 |
| | Oka | -.42857 | .39741 | 1.000 | -1.8881 | 1.0310 |
| | Oghoghobi | -.28571 | .39741 | 1.000 | -1.7453 | 1.1738 |
| | Ologbo | .00000 | .43986 | 1.000 | -1.6154 | 1.6154 |
| | Obaretin | -.33333 | .40723 | 1.000 | -1.8289 | 1.1623 |
| Ikpokpan | Ugbowo | -.32723 | .17854 | .972 | -.9829 | .3285 |
| | Uselu | -.25658 | .24272 | 1.000 | -1.1480 | .6349 |
| | Obayantor | -.00658 | .24272 | 1.000 | -.8980 | .8849 |
| | Aduwawa | .27165 | .16780 | .994 | -.3446 | .8879 |
| | Ukpato | .36842 | .42812 | 1.000 | -1.2039 | 1.9408 |
| | New Benin | -.04825 | .21236 | 1.000 | -.8282 | .7317 |
| | Oghede | -.03158 | .22500 | 1.000 | -.8579 | .7948 |

| | | | | | | |
|--------------|------------|-----------|--------|-------|---------|--------|
| | Okada | -.20301 | .25463 | 1.000 | -1.1382 | .7322 |
| | Isiuwa | .03509 | .26969 | 1.000 | -.9554 | 1.0256 |
| | Uhiera | .36842 | .35779 | 1.000 | -.9456 | 1.6825 |
| | Iguobazuwa | .36842 | .35779 | 1.000 | -.9456 | 1.6825 |
| | Udo | .36842 | .42812 | 1.000 | -1.2039 | 1.9408 |
| | Abudu | -.79825 | .26969 | .316 | -1.7887 | .1922 |
| | Obagie | .03509 | .35779 | 1.000 | -1.2789 | 1.3491 |
| | Useh | .20175 | .26969 | 1.000 | -.7887 | 1.1922 |
| | Idogbo | -.38158 | .24272 | .996 | -1.2730 | .5099 |
| | Ehor | .36842 | .35779 | 1.000 | -.9456 | 1.6825 |
| | Eyaen | .31287 | .18943 | .992 | -.3828 | 1.0086 |
| | Oka | -.06015 | .25463 | 1.000 | -.9953 | .8750 |
| | Oghoghobi | .08271 | .25463 | 1.000 | -.8525 | 1.0179 |
| | Ologbo | .36842 | .31682 | 1.000 | -.7951 | 1.5320 |
| | Obaretin | .03509 | .26969 | 1.000 | -.9554 | 1.0256 |
| Eyaen | Ugbowo | -.64010 | .18124 | .076 | -1.3057 | .0255 |
| | Urelu | -.56944 | .24471 | .776 | -1.4682 | .3293 |
| | Obayantor | -.31944 | .24471 | 1.000 | -1.2182 | .5793 |
| | Aduwawa | -.04122 | .17066 | 1.000 | -.6680 | .5856 |
| | Ukpato | .05556 | .42926 | 1.000 | -1.5209 | 1.6321 |
| | New Benin | -.36111 | .21463 | .990 | -1.1494 | .4271 |
| | Oghede | -.34444 | .22714 | .997 | -1.1787 | .4898 |
| | Okada | -.51587 | .25653 | .930 | -1.4580 | .4263 |
| | Isiuwa | -.27778 | .27148 | 1.000 | -1.2748 | .7193 |
| | Uhiera | .05556 | .35914 | 1.000 | -1.2634 | 1.3746 |
| | Iguobazuwa | .05556 | .35914 | 1.000 | -1.2634 | 1.3746 |
| | Udo | .05556 | .42926 | 1.000 | -1.5209 | 1.6321 |
| | Abudu | -1.11111* | .27148 | .012 | -2.1082 | -.1140 |
| | Obagie | -.27778 | .35914 | 1.000 | -1.5968 | 1.0412 |
| | Useh | -.11111 | .27148 | 1.000 | -1.1082 | .8860 |
| | Idogbo | -.69444 | .24471 | .398 | -1.5932 | .2043 |
| | Ehor | .05556 | .35914 | 1.000 | -1.2634 | 1.3746 |
| | Ikpokpan | -.31287 | .18943 | .992 | -1.0086 | .3828 |
| | Oka | -.37302 | .25653 | .998 | -1.3152 | .5691 |
| | Oghoghobi | -.23016 | .25653 | 1.000 | -1.1723 | .7120 |
| | Ologbo | .05556 | .31834 | 1.000 | -1.1136 | 1.2247 |
| | Obaretin | -.27778 | .27148 | 1.000 | -1.2748 | .7193 |
| Oka | Ugbowo | -.26708 | .24860 | 1.000 | -1.1801 | .6459 |
| | Urelu | -.19643 | .29806 | 1.000 | -1.2911 | .8982 |

| | | | | | | |
|-----------|------------|---------|--------|-------|---------|--------|
| | Obayantor | .05357 | .29806 | 1.000 | -1.0411 | 1.1482 |
| | Aduwawa | .33180 | .24100 | .999 | -.5533 | 1.2169 |
| | Ukpato | .42857 | .46175 | 1.000 | -1.2673 | 2.1244 |
| | New Benin | .01190 | .27390 | 1.000 | -.9940 | 1.0178 |
| | Oghede | .02857 | .28381 | 1.000 | -1.0138 | 1.0709 |
| | Okada | -.14286 | .30783 | 1.000 | -1.2734 | .9877 |
| | Isiuwa | .09524 | .32040 | 1.000 | -1.0815 | 1.2720 |
| | Uhiera | .42857 | .39741 | 1.000 | -1.0310 | 1.8881 |
| | Iguobazuwa | .42857 | .39741 | 1.000 | -1.0310 | 1.8881 |
| | Udo | .42857 | .46175 | 1.000 | -1.2673 | 2.1244 |
| | Abudu | -.73810 | .32040 | .791 | -1.9148 | .4386 |
| | Obagie | .09524 | .39741 | 1.000 | -1.3643 | 1.5548 |
| | Useh | .26190 | .32040 | 1.000 | -.9148 | 1.4386 |
| | Idogbo | -.32143 | .29806 | 1.000 | -1.4161 | .7732 |
| | Ehor | .42857 | .39741 | 1.000 | -1.0310 | 1.8881 |
| | Ikpokpan | .06015 | .25463 | 1.000 | -.8750 | .9953 |
| | Eyaen | .37302 | .25653 | .998 | -.5691 | 1.3152 |
| | Oghoghobi | .14286 | .30783 | 1.000 | -.9877 | 1.2734 |
| | Ologbo | .42857 | .36097 | 1.000 | -.8971 | 1.7543 |
| | Obaretin | .09524 | .32040 | 1.000 | -1.0815 | 1.2720 |
| Oghoghobi | Ugbowo | -.40994 | .24860 | .992 | -1.3230 | .5031 |
| | Urelu | -.33929 | .29806 | 1.000 | -1.4340 | .7554 |
| | Obayantor | -.08929 | .29806 | 1.000 | -1.1840 | 1.0054 |
| | Aduwawa | .18894 | .24100 | 1.000 | -.6962 | 1.0740 |
| | Ukpato | .28571 | .46175 | 1.000 | -1.4101 | 1.9816 |
| | New Benin | -.13095 | .27390 | 1.000 | -1.1369 | .8750 |
| | Oghede | -.11429 | .28381 | 1.000 | -1.1566 | .9280 |
| | Okada | -.28571 | .30783 | 1.000 | -1.4163 | .8449 |
| | Isiuwa | -.04762 | .32040 | 1.000 | -1.2244 | 1.1291 |
| | Uhiera | .28571 | .39741 | 1.000 | -1.1738 | 1.7453 |
| | Iguobazuwa | .28571 | .39741 | 1.000 | -1.1738 | 1.7453 |
| | Udo | .28571 | .46175 | 1.000 | -1.4101 | 1.9816 |
| | Abudu | -.88095 | .32040 | .463 | -2.0577 | .2958 |
| | Obagie | -.04762 | .39741 | 1.000 | -1.5072 | 1.4119 |
| | Useh | .11905 | .32040 | 1.000 | -1.0577 | 1.2958 |
| | Idogbo | -.46429 | .29806 | .996 | -1.5590 | .6304 |
| | Ehor | .28571 | .39741 | 1.000 | -1.1738 | 1.7453 |
| | Ikpokpan | -.08271 | .25463 | 1.000 | -1.0179 | .8525 |
| | Eyaen | .23016 | .25653 | 1.000 | -.7120 | 1.1723 |

| | | | | | | | |
|------------|------------|----------|---------|--------|---------|---------|-------|
| | Oka | -.14286 | .30783 | 1.000 | -1.2734 | .9877 | |
| | Ologbo | .28571 | .36097 | 1.000 | -1.0400 | 1.6114 | |
| | Obaretin | -.04762 | .32040 | 1.000 | -1.2244 | 1.1291 | |
| Ologbo | Ugbowo | -.69565 | .31199 | .834 | -1.8415 | .4502 | |
| | Uselu | -.62500 | .35267 | .981 | -1.9202 | .6702 | |
| | Obayantor | -.37500 | .35267 | 1.000 | -1.6702 | .9202 | |
| | Aduwawa | -.09677 | .30597 | 1.000 | -1.2205 | 1.0269 | |
| | Ukpato | .00000 | .49875 | 1.000 | -1.8317 | 1.8317 | |
| | New Benin | -.41667 | .33250 | 1.000 | -1.6378 | .8045 | |
| | Oghede | -.40000 | .34071 | 1.000 | -1.6513 | .8513 | |
| | Okada | -.57143 | .36097 | .995 | -1.8971 | .7543 | |
| | Isiuwa | -.33333 | .37175 | 1.000 | -1.6986 | 1.0320 | |
| | Uhiere | .00000 | .43986 | 1.000 | -1.6154 | 1.6154 | |
| | Iguobazuwa | .00000 | .43986 | 1.000 | -1.6154 | 1.6154 | |
| | Udo | .00000 | .49875 | 1.000 | -1.8317 | 1.8317 | |
| | Abudu | -1.16667 | .37175 | .215 | -2.5320 | .1986 | |
| | Obagie | -.33333 | .43986 | 1.000 | -1.9488 | 1.2821 | |
| | Useh | -.16667 | .37175 | 1.000 | -1.5320 | 1.1986 | |
| | Idogbo | -.75000 | .35267 | .886 | -2.0452 | .5452 | |
| | Ehor | .00000 | .43986 | 1.000 | -1.6154 | 1.6154 | |
| | Ikpokpan | -.36842 | .31682 | 1.000 | -1.5320 | .7951 | |
| | Eyaen | -.05556 | .31834 | 1.000 | -1.2247 | 1.1136 | |
| | Oka | -.42857 | .36097 | 1.000 | -1.7543 | .8971 | |
| | Oghoghobi | -.28571 | .36097 | 1.000 | -1.6114 | 1.0400 | |
| | Obaretin | -.33333 | .37175 | 1.000 | -1.6986 | 1.0320 | |
| | Obaretin | Ugbowo | -.36232 | .26400 | .999 | -1.3319 | .6073 |
| | | Uselu | -.29167 | .31102 | 1.000 | -1.4340 | .8506 |
| Obayantor | | -.04167 | .31102 | 1.000 | -1.1840 | 1.1006 | |
| Aduwawa | | .23656 | .25686 | 1.000 | -.7068 | 1.1799 | |
| Ukpato | | .33333 | .47023 | 1.000 | -1.3936 | 2.0603 | |
| New Benin | | -.08333 | .28795 | 1.000 | -1.1409 | .9742 | |
| Oghede | | -.06667 | .29740 | 1.000 | -1.1589 | 1.0256 | |
| Okada | | -.23810 | .32040 | 1.000 | -1.4148 | .9386 | |
| Isiuwa | | .00000 | .33250 | 1.000 | -1.2212 | 1.2212 | |
| Uhiere | | .33333 | .40723 | 1.000 | -1.1623 | 1.8289 | |
| Iguobazuwa | | .33333 | .40723 | 1.000 | -1.1623 | 1.8289 | |
| Udo | | .33333 | .47023 | 1.000 | -1.3936 | 2.0603 | |
| Abudu | | -.83333 | .33250 | .649 | -2.0545 | .3878 | |
| Obagie | | .00000 | .40723 | 1.000 | -1.4956 | 1.4956 | |

| | | | | |
|------------------|----------------|---------------|---------------------|---------------|
| Useh | .16667 | .33250 | 1.000-1.0545 | 1.3878 |
| Idogbo | -.41667 | .31102 | 1.000-1.5590 | .7256 |
| Ehor | .33333 | .40723 | 1.000-1.1623 | 1.8289 |
| Ikpokpan | -.03509 | .26969 | 1.000-1.0256 | .9554 |
| Eyaen | .27778 | .27148 | 1.000-.7193 | 1.2748 |
| Oka | -.09524 | .32040 | 1.000-1.2720 | 1.0815 |
| Oghoghobi | .04762 | .32040 | 1.000-1.1291 | 1.2244 |
| Ologbo | .33333 | .37175 | 1.000-1.0320 | 1.6986 |

*. The mean difference is significant at the 0.05 level.

APPENDIX 4

Table 5.6: Parameter Estimates Multinomial Logistic Regression Analysis

| | | Parameter Estimates | | | | | 95% Confidence Interval for | | |
|--------------------------------------------------------------------------------|-----------------------------------------------------------|---------------------|------------|--------|----|------|-----------------------------|-------------|-------------|
| Feeling towards been Pregnant either for the First or Other Times ^a | | B | Std. Error | Wald | df | Sig. | Exp(B) | Exp(B) | |
| | | | | | | | | Lower Bound | Upper Bound |
| Mistimed | Intercept | 2.733 | .586 | 21.780 | 1 | .000 | | | |
| | [Non-use of Contraceptive led to Unwanted Pregnancy=1.00] | -.1568 | .565 | 7.701 | 1 | .006 | .208 | .069 | .631 |
| | [Non-use of Contraceptive led to Unwanted Pregnancy=2.00] | 0 ^b | . | . | 0 | . | . | . | . |
| | [Contraceptive Failure=1.00] | -.361 | .482 | .560 | 1 | .454 | .697 | .271 | 1.793 |
| | [Contraceptive Failure=2.00] | 0 ^b | . | . | 0 | . | . | . | . |
| | [Rape led to Unwanted Pregnancy=1.00] | -1.116 | 1.217 | .840 | 1 | .359 | .328 | .030 | 3.560 |
| | [Rape led to Unwanted Pregnancy=2.00] | 0 ^b | . | . | 0 | . | . | . | . |

| | | | | | | | | |
|------------------------------------------------------------------------|----------------|------|-------|---|------|-----------|-----------|-----------|
| [Inadequate Knowledge of Sex Education led to Unwanted Pregnancy=1.00] | - 1.029 | .622 | 2.737 | 1 | .098 | .357 | .106 | 1.209 |
| [Inadequate Knowledge of Sex Education led to Unwanted Pregnancy=2.00] | 0 ^b | . | . | 0 | . | . | . | . |
| [Misuse/Irregular use of Contraceptive led to Unwanted Pregnancy=1.00] | .634 | .933 | .461 | 1 | .497 | 1.885 | .302 | 11.743 |
| [Misuse/Irregular use of Contraceptive led to Unwanted Pregnancy=2.00] | 0 ^b | . | . | 0 | . | . | . | . |
| [Cultural Inclination led to Unwanted Pregnancy=1.00] | - 21.688 | .000 | . | 1 | . | 3.810E-10 | 3.810E-10 | 3.810E-10 |
| [Cultural Inclination led to Unwanted Pregnancy=2.00] | 0 ^b | . | . | 0 | . | . | . | . |

| | | | | | | | | | |
|----------|-----------------------------------------------------------------------------------|----------------|------|--------|---|------|-----------------|-----------------|-----------------|
| | [Religious Belief led to Unwanted Pregnancy=1.00] | 23.434 | .000 | . | 1 | . | 15042284443.777 | 15042284443.777 | 15042284443.777 |
| | [Religious Belief led to Unwanted Pregnancy=2.00] | 0 ^b | . | . | 0 | . | . | . | . |
| | [Non-chanlant Attitude towards Pregnancy Planning led to Unwanted Pregnancy=1.00] | -.423 | .832 | .258 | 1 | .611 | .655 | .128 | 3.346 |
| | [Non-chanlant Attitude towards Pregnancy Planning led to Unwanted Pregnancy=2.00] | 0 ^b | . | . | 0 | . | . | . | . |
| Unwanted | Intercept | 2.389 | .561 | 18.111 | 1 | .000 | | | |
| ed | [Non-use of Contraceptive led to Unwanted Pregnancy=1.00] | -1.000 | .537 | 3.468 | 1 | .063 | .368 | .128 | 1.054 |

| | | | | | | | | |
|------------------------------------------------------------------------|----------------|-------|-------|---|------|-------|------|-------|
| [Non-use of Contraceptive led to Unwanted Pregnancy=2.00] | 0 ^b | . | . | 0 | . | . | . | . |
| [Contraceptive Failure=1.00] | .151 | .458 | .108 | 1 | .742 | 1.163 | .474 | 2.855 |
| [Contraceptive Failure=2.00] | 0 ^b | . | . | 0 | . | . | . | . |
| [Rape led to Unwanted Pregnancy=1.00] | .030 | 1.139 | .001 | 1 | .979 | 1.031 | .111 | 9.612 |
| [Rape led to Unwanted Pregnancy=2.00] | 0 ^b | . | . | 0 | . | . | . | . |
| [Inadequate Knowledge of Sex Education led to Unwanted Pregnancy=1.00] | -.719 | .594 | 1.469 | 1 | .225 | .487 | .152 | 1.559 |
| [Inadequate Knowledge of Sex Education led to Unwanted Pregnancy=2.00] | 0 ^b | . | . | 0 | . | . | . | . |

| | | | | | | | | |
|------------------------------------------------------------------------|----------------|-------|-------|---|------|----------------|----------------|----------------|
| [Misuse/Irregular use of Contraceptive led to Unwanted Pregnancy=1.00] | .003 | .931 | .000 | 1 | .997 | 1.003 | .162 | 6.219 |
| [Misuse/Irregular use of Contraceptive led to Unwanted Pregnancy=2.00] | 0 ^b | . | . | 0 | . | . | . | . |
| [Cultural Inclination led to Unwanted Pregnancy=1.00] | - 2.244 | 1.766 | 1.614 | 1 | .204 | .106 | .003 | 3.380 |
| [Cultural Inclination led to Unwanted Pregnancy=2.00] | 0 ^b | . | . | 0 | . | . | . | . |
| [Religious Belief led to Unwanted Pregnancy=1.00] | 21.216 | .000 | . | 1 | . | 1636253655.585 | 1636253655.585 | 1636253655.585 |
| [Religious Belief led to Unwanted Pregnancy=2.00] | 0 ^b | . | . | 0 | . | . | . | . |

| | | | | | | | | |
|------------------------------------------------------------------------------------------------------------|----------------|------|------|---|-----|-------|------|-------|
| [Non-cha lant Attitude towards Pregnancy Planning led to Unwanted Pregnancy=1.0 0] | .714 | .781 | .836 | 1 | .36 | 2.041 | .442 | 9.426 |
| [Non-cha lant Attitude towards Pregnancy Planning led to Unwanted Pregnancy=2.0 0] | 0 ^b | . | . | 0 | . | . | . | . |

a. The reference category is: Wanted.

b. This parameter is set to zero because it is redundant.

APPENDIX 5

Table 5.9: Parameter Estimates Multinomial Logistic Regression Analysis

| | | | | | | | 95% Confidence Interval for Exp(B) | | |
|--------------------------------------------------------------------------------|-----------------------------|----------------|------------|-------|----|------|------------------------------------|-------------|---------------------------------|
| | | B | Std. Error | Wald | Df | Sig. | Exp(B) | Lower Bound | Upper Bound |
| Feeling towards been Pregnant either for the First or Other Times ^a | Intercept | -23.178 | 222.579 | .011 | 1 | .917 | | | |
| | [Group of Respondents=1.00] | .621 | 1.445 | .184 | 1 | .668 | 1.860 | .109 | 31.602 |
| | [Group of Respondents=2.00] | 0 ^b | . | .0 | 0 | . | . | . | . |
| | [Age of Respondent2=1.00] | 6.665 | 36.500 | .033 | 1 | .855 | 784.223 | 6.698E-29 | 9182191667828986000000000000000 |
| | [Age of Respondent2=2.00] | 3.078 | 15.307 | .040 | 1 | .841 | 21.718 | 2.028E-12 | 232546006598551.840 |
| | [Age of Respondent2=3.00] | 5.761 | 3.496 | 2.716 | 1 | .099 | 317.676 | .336 | 300451.619 |
| | [Age of Respondent2=4.00] | 4.004 | 3.721 | 1.158 | 1 | .282 | 54.801 | .037 | 80564.058 |
| | [Age of Respondent2=5.00] | 7.229 | 4.104 | 3.103 | 1 | .078 | 1379.124 | .443 | 4296786.431 |
| | [Age of Respondent2=6.00] | 11.696 | 5.661 | 4.269 | 1 | .039 | 120129.531 | 1.825 | 7908275700.081 |
| | [Age of Respondent2=7.00] | 0 ^b | . | .0 | 0 | . | . | . | . |

| | | | | | | | | |
|----------------------------------------|----------------|--------|-------|---|------|--------------|-----------|---------------------------------|
| [Ethnicity of Respondent=7.00] | 8.235 | 27.124 | .092 | 1 | .761 | 3770.501 | 3.081E-20 | 461356735763086700000000000.000 |
| [Ethnicity of Respondent=8.00] | 13.896 | 32.653 | .181 | 1 | .670 | 1084240.419 | 1.741E-22 | 6751342302117795000000000000000 |
| [Ethnicity of Respondent=10.00] | 0 ^b | . | . | 0 | . | . | . | . |
| [Educational Level of Respondent=1.00] | -6.558 | 16.345 | .161 | 1 | .688 | .001 | 1.736E-17 | 116048238891.647 |
| [Educational Level of Respondent=2.00] | -3.497 | 9.186 | .145 | 1 | .703 | .030 | 4.595E-10 | 1996898.257 |
| [Educational Level of Respondent=3.00] | -1.850 | 1.264 | .452 | 1 | .501 | .428 | .036 | 5.092 |
| [Educational Level of Respondent=4.00] | 0 ^b | . | . | 0 | . | . | . | . |
| [Religion of Respondents=1.00] | 17.847 | 25.785 | .479 | 1 | .489 | 56338449.845 | 6.353E-15 | 4996003865618439000000000000000 |
| [Religion of Respondents=2.00] | 18.168 | 26.109 | .484 | 1 | .487 | 77643870.669 | 4.635E-15 | 1300738711967948000000000000000 |
| [Religion of Respondents=3.00] | 0 ^b | . | . | 0 | . | . | . | . |
| [Occupation of the Respondent=1.00] | 10.605 | 5.381 | 3.884 | 1 | .049 | 40325.261 | 1.060 | 1533868859.213 |

| | | | | | | | | |
|-------------------------------------|----------------|--------|-------|---|------|------------|-----------|----------------------|
| [Occupation of the Respondent=2.00] | 12.132 | 5.634 | 4.636 | 1 | .031 | 185773.787 | 2.971 | 11616348809.316 |
| [Occupation of the Respondent=3.00] | 9.761 | 5.235 | 3.477 | 1 | .062 | 17340.964 | .607 | 495553939.700 |
| [Occupation of the Respondent=4.00] | 6.404 | 14.699 | .190 | 1 | .663 | 604.391 | 1.858E-10 | 1965565374156868.800 |
| [Occupation of the Respondent=5.00] | 9.725 | 11.432 | .724 | 1 | .395 | 16727.804 | 3.109E-6 | 90013058643933.250 |
| [Occupation of the Respondent=7.00] | 0 ^b | . | .0 | 0 | . | . | . | . |
| [Income=1.00] | .416 | 17.573 | .001 | 1 | .981 | 1.516 | 1.669E-15 | 1376777911353131.000 |
| [Income=2.00] | 2.648 | 1.759 | 2.266 | 1 | .132 | 14.131 | .449 | 444.415 |
| [Income=3.00] | 1.292 | 2.107 | .376 | 1 | .540 | 3.641 | .059 | 226.289 |
| [Income=4.00] | 4.561 | 2.294 | 3.951 | 1 | .047 | 95.636 | 1.066 | 8579.842 |
| [Income=5.00] | 5.797 | 3.202 | 3.278 | 1 | .070 | 329.453 | .620 | 175117.576 |
| [Income=6.00] | 2.139 | 1.998 | 1.146 | 1 | .284 | 8.491 | .169 | 426.593 |
| [Income=7.00] | 0 ^b | . | .0 | 0 | . | . | . | . |

| | | | | | | | | |
|--------------------------------------------------------------|----------------|-------------|----------|---|----------|------------|----------------|--------------|
| [Household Size of Respondent=1.00] | 9.90 8 | 215.5 53 | .00 2 | 1 | .9 63 | 20094.539 | 6.67 1E-180 | 6.053E+187 |
| [Household Size of Respondent=2.00] | 11.1 64 | 215.5 56 | .00 3 | 1 | .9 59 | 70514.119 | 2.32 5E-179 | 2.139E+188 |
| [Household Size of Respondent=3.00] | 13.4 86 | 215.5 78 | .00 4 | 1 | .9 50 | 719534.435 | 2.27 2E-178 | 2.279E+189 |
| [Household Size of Respondent=4.00] | 0 ^b | . | . | 0 | . | . | . | . |
| [Who makes the Decision on the Desired Number of Kinds=1.00] | - .829 | 7.761 | .01 1 | 1 | .9 15 | .437 | 1.08 1E-7 | 1762783.016 |
| [Who makes the Decision on the Desired Number of Kinds=2.00] | 1.45 1 | 7.838 | .03 4 | 1 | .8 53 | 4.269 | 9.09 5E-7 | 20035953.666 |
| [Who makes the Decision on the Desired Number of Kinds=3.00] | 1.78 5 | 7.504 | .05 7 | 1 | .8 12 | 5.959 | 2.44 2E-6 | 14544175.892 |

| | | | | | | | | |
|--------------------------------------------------------------|----------------|--------|-------|---|------|-----------|-----------|----------------|
| [Who makes the Decision on the Desired Number of Kinds=6.00] | 0 ^b | . | . | 0 | . | . | . | . |
| [Age of Entry into Marriage of Respondent2 =1.00] | - 16.909 | 20.274 | .696 | 1 | .404 | 4.533E-8 | 2.505E-25 | 8202327973.959 |
| [Age of Entry into Marriage of Respondent2 =2.00] | - 13.994 | 16.868 | .688 | 1 | .407 | 8.365E-7 | 3.668E-21 | 190754449.687 |
| [Age of Entry into Marriage of Respondent2 =3.00] | - 21.763 | 16.626 | 1.713 | 1 | .191 | 3.536E-10 | 2.492E-24 | 50196.727 |
| [Age of Entry into Marriage of Respondent2 =4.00] | - 19.097 | 16.339 | 1.366 | 1 | .242 | 5.085E-9 | 6.293E-23 | 410933.019 |
| [Age of Entry into Marriage of Respondent2 =5.00] | - 13.431 | .000 | . | 1 | . | 1.469E-6 | 1.469E-6 | 1.469E-6 |
| [Age of Entry into Marriage of Respondent2 =6.00] | 0 ^b | . | . | 0 | . | . | . | . |

| | | | | | | | | | |
|----------|-------------------------------------------|----------------|---------|-------|---|------|-----------|-----------|-----------------------------------|
| | [Age of First Birth of Respondent2 =1.00] | 9.945 | 24.120 | .170 | 1 | .680 | 20857.397 | 6.138E-17 | 7087431617629575000000000.000 |
| | [Age of First Birth of Respondent2 =2.00] | 4.428 | 16.232 | .074 | 1 | .785 | 83.776 | 1.279E-12 | 5488908518038218.000 |
| | [Age of First Birth of Respondent2 =3.00] | 3.948 | 16.202 | .059 | 1 | .807 | 51.835 | 8.385E-13 | 3204282607416884.500 |
| | [Age of First Birth of Respondent2 =4.00] | 4.272 | 16.211 | .069 | 1 | .792 | 71.638 | 1.138E-12 | 4507808632321825.000 |
| | [Age of First Birth of Respondent2 =5.00] | 0 ^b | . | . | 0 | . | . | . | . |
| Unwanted | Intercept | -39.188 | 216.328 | .033 | 1 | .856 | | | |
| | [Group of Respondents=1.00] | -0.020 | 1.414 | .000 | 1 | .989 | .981 | .061 | 15.676 |
| | [Group of Respondents=2.00] | 0 ^b | . | . | 0 | . | . | . | . |
| | [Age of Respondent2 =1.00] | .274 | 34.243 | .000 | 1 | .994 | 1.316 | 9.357E-30 | 18498844806669300000000000000.000 |
| | [Age of Respondent2 =2.00] | 6.329 | 15.198 | .173 | 1 | .677 | 560.509 | 6.487E-11 | 4843242763365219.000 |
| | [Age of Respondent2 =3.00] | 6.902 | 3.673 | 3.531 | 1 | .060 | 993.825 | .743 | 1329264.544 |

| | | | | | | | | |
|-------------------------------------|----------------|-------|-----|----|----|----------|-------|----------------------------------|
| [Age of Respondent2 =4.00] | 5.60 | 3.842 | 2.1 | 1 | .1 | 270.343 | .145 | 503804.075 |
| [Age of Respondent2 =5.00] | 6.81 | 4.205 | 2.6 | 1 | .1 | 909.195 | .239 | 3453813.176 |
| [Age of Respondent2 =6.00] | 8.98 | 5.912 | 2.3 | 1 | .1 | 7987.491 | .074 | 861077543.426 |
| [Age of Respondent2 =7.00] | 0 ^b | . | . | 0 | . | . | . | . |
| [Marital Status of Respondent=1.00] | - | 29.07 | .00 | 1 | .9 | .249 | 4.43 | 1393880286439274700000000.000 |
| [Marital Status of Respondent=2.00] | 1.39 | 5 | 2 | 62 | | | 2E-26 | |
| [Marital Status of Respondent=3.00] | - | 29.65 | .00 | 1 | .9 | .810 | 4.63 | 14138646238939905000000000.000 |
| [Marital Status of Respondent=4.00] | 3.98 | 8 | 9 | 91 | | | 3E-27 | |
| [Marital Status of Respondent=5.00] | 0 ^b | . | . | 0 | . | . | . | . |
| [Marital Status of Respondent=6.00] | 5.55 | 38.00 | .02 | 1 | .8 | 258.809 | 1.14 | 5832499215317825000000000000.000 |
| [Marital Status of Respondent=7.00] | 6 | 8 | 1 | 84 | | | 8E-30 | |
| [Ethnicity of Respondent=1.00] | 4.27 | 22.04 | .03 | 1 | .8 | 71.492 | 1.23 | 414062295624459600000.000 |
| [Ethnicity of Respondent=2.00] | 0 | 3 | 8 | 46 | | | 4E-17 | |
| [Ethnicity of Respondent=3.00] | 5.65 | 22.10 | .06 | 1 | .7 | 286.314 | 4.37 | 1873230252781942600000.000 |
| [Ethnicity of Respondent=4.00] | 7 | 5 | 5 | 98 | | | 6E-17 | |

| | | | | | | | | |
|----------------------------------------|----------------|--------|------|---|------|------------|-----------|---------------------------------|
| [Ethnicity of Respondent=3.00] | 4.940 | 22.417 | .049 | 1 | .826 | 139.708 | 1.158E-17 | 1685020997473310600000.000 |
| [Ethnicity of Respondent=4.00] | 9.675 | 22.174 | .190 | 1 | .663 | 15908.985 | 2.125E-15 | 119102916485644400000000.000 |
| [Ethnicity of Respondent=5.00] | 3.098 | 22.394 | .019 | 1 | .890 | 22.159 | 1.921E-18 | 255578521741349260000.000 |
| [Ethnicity of Respondent=6.00] | 4.989 | 22.107 | .051 | 1 | .821 | 146.756 | 2.233E-17 | 964379815017070600000.000 |
| [Ethnicity of Respondent=7.00] | 11.598 | 23.855 | .236 | 1 | .627 | 108870.307 | 5.387E-16 | 22003953556110697000000000.000 |
| [Ethnicity of Respondent=8.00] | 3.371 | 30.988 | .012 | 1 | .913 | 29.114 | 1.222E-25 | 693355902601800400000000000.000 |
| [Ethnicity of Respondent=10.00] | 0 ^b | . | . | 0 | . | . | . | . |
| [Educational Level of Respondent=1.00] | 3.511 | 14.927 | .055 | 1 | .814 | 33.483 | 6.592E-12 | 170065272545671.060 |
| [Educational Level of Respondent=2.00] | 5.020 | 9.186 | .299 | 1 | .585 | 151.391 | 2.296E-6 | 9980086616.710 |
| [Educational Level of Respondent=3.00] | 1.047 | 1.209 | .750 | 1 | .387 | 2.849 | .266 | 30.498 |
| [Educational Level of Respondent=4.00] | 0 ^b | . | . | 0 | . | . | . | . |

| | | | | | | | | |
|-------------------------------------|----------------|--------|-------|---|------|-------------|-----------|-----------------------------------------|
| [Religion of Respondents=1.00] | 15.429 | 28.326 | .297 | 1 | .586 | 5018576.686 | 3.888E-18 | 6477931266435243000000000000000000.0000 |
| [Religion of Respondents=2.00] | 12.135 | 28.646 | .179 | 1 | .672 | 186310.843 | 7.703E-20 | 4506422149724752000000000000000000.0000 |
| [Religion of Respondents=3.00] | 0 ^b | . | . | 0 | . | . | . | . |
| [Occupation of the Respondent=1.00] | 3.600 | 3.721 | .936 | 1 | .333 | 36.599 | .025 | 53833.444 |
| [Occupation of the Respondent=2.00] | 3.903 | 4.158 | .881 | 1 | .348 | 49.560 | .014 | 171485.136 |
| [Occupation of the Respondent=3.00] | 2.400 | 3.590 | .447 | 1 | .504 | 11.020 | .010 | 12530.605 |
| [Occupation of the Respondent=4.00] | -1.959 | 14.778 | .018 | 1 | .895 | .141 | 3.719E-14 | 534682902151.667 |
| [Occupation of the Respondent=5.00] | 13.755 | 8.680 | 2.511 | 1 | .113 | 941364.663 | .038 | 23029810776803.832 |
| [Occupation of the Respondent=7.00] | 0 ^b | . | . | 0 | . | . | . | . |
| [Income=1.00] | 2.801 | 16.941 | .027 | 1 | .869 | 16.456 | 6.250E-14 | 4332671153247456.500 |
| [Income=2.00] | -0.730 | 1.921 | .144 | 1 | .704 | .482 | .011 | 20.790 |

| | | | | | | | | |
|-----------------------------------------------|----------------|-------|-----|----|----|------------|------------|------------|
| [Income=3.00] | .007 | 2.044 | .00 | 1 | .9 | 1.007 | .018 | 55.383 |
| | | | 0 | 97 | | | | |
| [Income=4.00] | 1.03 | 2.140 | .23 | 1 | .6 | 2.810 | .042 | 186.405 |
| | 3 | | 3 | 29 | | | | |
| [Income=5.00] | 3.53 | 3.073 | 1.3 | 1 | .2 | 34.224 | .083 | 14118.378 |
| | 3 | | 22 | 50 | | | | |
| [Income=6.00] | 1.28 | 1.967 | .42 | 1 | .5 | 3.606 | .076 | 170.277 |
| | 2 | | 5 | 14 | | | | |
| [Income=7.00] | 0 ^b | . | . | 0 | . | . | . | . |
| [Household Size of Respondent= 1.00] | 18.7 | 209.9 | .00 | 1 | .9 | 142461713. | 2.55 | 7.952E+186 |
| | 75 | 93 | 8 | 29 | | 013 | 2E- 171 | |
| [Household Size of Respondent= 2.00] | 19.1 | 209.9 | .00 | 1 | .9 | 209245170. | 3.72 | 1.174E+187 |
| | 59 | 96 | 8 | 27 | | 312 | 8E- 171 | |
| [Household Size of Respondent= 3.00] | 21.8 | 210.0 | .01 | 1 | .9 | 301929153 | 5.15 | 1.767E+188 |
| | 28 | 18 | 1 | 17 | | 6.345 | 8E- 170 | |
| [Household Size of Respondent= 4.00] | 0 ^b | . | . | 0 | . | . | . | . |
| [Autonomy=1 .00] | .038 | 4.052 | .00 | 1 | .9 | 1.039 | .000 | 2922.419 |
| | | | 0 | 92 | | | | |
| [Autonomy =2.00] | - | 4.499 | .89 | 1 | .3 | .014 | 2.08 | 95.283 |
| | 4.26 | | 7 | 44 | | | 6E-6 | |
| | 2 | | | | | | | |
| [Autonomy =3.00] | - | 3.746 | .12 | 1 | .7 | .261 | .000 | 403.150 |
| | 1.34 | | 8 | 20 | | | | |
| | 3 | | | | | | | |
| [Autonomy =6.00] | 0 ^b | . | . | 0 | . | . | . | . |

| | | | | | | | | |
|---------------------------------------------------|----------------|--------|------|---|------|---------|-----------|--------------------------------|
| [Age of Entry into Marriage of Respondent2 =1.00] | - 7.166 | 27.329 | .069 | 1 | .793 | .001 | 4.224E-27 | 141308647499333530000.000 |
| [Age of Entry into Marriage of Respondent2 =2.00] | .564 | 25.188 | .001 | 1 | .982 | 1.758 | 6.377E-22 | 4848320014707466000000.000 |
| [Age of Entry into Marriage of Respondent2 =3.00] | - 7.008 | 24.973 | .079 | 1 | .779 | .001 | 5.007E-25 | 1634271451883627010.000 |
| [Age of Entry into Marriage of Respondent2 =4.00] | 4.013 | 25.394 | .025 | 1 | .874 | 55.332 | 1.342E-20 | 228102323621283100000000.000 |
| [Age of Entry into Marriage of Respondent2 =5.00] | .182 | 29.713 | .000 | 1 | .995 | 1.199 | 6.121E-26 | 23489118641018217000000000.000 |
| [Age of Entry into Marriage of Respondent2 =6.00] | 0 ^b | . | . | 0 | . | . | . | . |
| [Age of First Birth of Respondent2 =1.00] | 5.572 | 23.307 | .057 | 1 | .811 | 262.852 | 3.812E-18 | 18124219903590395000000.000 |
| [Age of First Birth of Respondent2 =2.00] | .496 | 15.551 | .001 | 1 | .975 | 1.643 | 9.517E-14 | 28364070851947.990 |

| | | | | | | | | |
|-------------------------------------------|----------------|--------|------|---|------|-------|-----------|---------------------|
| [Age of First Birth of Respondent2 =3.00] | 2.176 | 15.543 | .020 | 1 | .889 | 8.807 | 5.186E-13 | 149555219564401.400 |
| [Age of First Birth of Respondent2 =4.00] | -3.400 | 15.224 | .050 | 1 | .823 | .033 | 3.668E-15 | 303372677592.657 |
| [Age of First Birth of Respondent2 =5.00] | 0 ^b | . | . | 0 | . | . | . | . |

a. The reference category is: Wanted.

b. This parameter is set to zero because it is redundant.

APPENDIX 6
COMMUNITIES IN THE SEVEN LOCAL GOVERNMENT AREA OF
EDO STATE, NIGERIA

| S/N | LGA | COMMUNITY | | |
|-----|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. | Oredo | 1. GRA 4. Uzebu 7. Eguadase 10. Ogbelaka 13. Ikpema 16. Unueru 19. Ogbelaka 22. Iyaro 25. Aakhuakhuari 28. Arogba 31. Ekae 34. Evbiyomwanru 37. Evbukhu 40. Iguikpe 43. Obazagbon 46. Okhorhomi 49. Osagiede 52. Umegbe 55. Utagban | 2. Etete 5. Urubi 8. Unueru 11. Nekpenekpen 14. Eguadase 17. Iwegie 20. Oliha 23. Ogbe 26. Amagba 29. Ebo Ogunmwenyin 32. Emonfonmwan s 35. Evborohun 38. Evbuodia Olaya 41. Imagbe Izobo 44. Ogbareki 47. Okpebor 50. Ugbor 53. Ureghin 56. New Benin | 3. Iyekogba 6. Ikpema 9. Ugboka 12. Ibiwe 15. Ugbague 18. Ugboka 21. Ukhegie 24. Ekehuan 27. Amagba 30. Egbirhe 33. Evbeehae 36. Evbovbioba 39. Evbuonu s Camp 42. Irhne Owina 45. Ogiza 48. Okua 51. Uholor 54. Urhobo Camp |
| 2. | Ovia South West | 57. Iguobazuwa East 60. Usen 63. Udo 66. Usen 69. Iguobazuwa West 72. Ago-Okunzuwa 75. Iguatakpa 78. Isokponba 81. Okoro 84. Iguiyase 87. Iguoriakhi Water Side 90. Udo 93. Iguafole 96. Iguowan 99. Udo 102. Urhezen 105. Essi 108. Lakalolo 111. Ojomu 114. Umaza 117. Gbelemonten Water Side | 58. Aghobahi 61. Ugbogui 64. Aghobahi 67. Ugbogui 70. Igueze 73. ifesoba 76. Iguobazuwa 79. Obaretin 82. Ameienghowan 85. Iguoriakhi 88. Ikpoba 91. Eko-Eyuyu 94. Igueze 97. Okomu Oil 100. Udo-Aken 103. UMAZA 106. Iguekahen 109. Obobaifo 112. Sayo 115. SILUKO | 59. Ora 62. Urezen 65. Siluko 68. Umaza 71. Abozumamwen 74. Evboba 77. Iguogun 80. Okokpon 83. Evbuogun 86. Iguoriakhi Upland 89. Osse 92. Etete 95. Iguokolor 98. Okosa 101. Ugolo 104. Akpororo 107. Iguelaho 110. Ogunwake 113. Ugbokua 116. Gbelebu 118. Gebelemonten Upland |

| | | | | |
|----|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | 119. Iguagbado 122. Kehide Camp 125. Madoti 128. Okomu-Ijaw 131. Ubayaki 134. UGBOGUE 137. Agbonokhua 140. Evbonogbon 143. Jamijie 146. Okponha 149. Sakazioo 152. Ugbogui I 155. Iguedo 158. Ofaran Camp 161. Okha 164. Oladaro 167. NIKORO-GHA 170. Ikoha 174. Ajakurama 177. Ekogben W.N. 180. Gbolowosho 183. Ofunama | 120. Jide Inland 123. Lawson Camp 126. Ofineyege 129. Okua 132. Ugbe-Sango 135. Adebayo Camp 138. Akrakuan 141. Iguobanor 144. Nikrowa 147. Osa Village 150. Sule Camp 153. USEN 156. Leleji 159. Ogidigbo 162. Okhue Camp 165. Olorin 168. Adegayo 172. Ofunama 175. Ajatitition 178. Gbelekanga 181. Isabemwen 184. Saleria | 121. Jide Upland 124. Madagbayo 127. Okadeye 130. Saforogbo 133. Ugbokua 136. Aden 139. Ekuremu 142. Ikoha 145. Ofunmwengbe 148. Osedere 151. Ugbo 154. Aideyanba 157. Obomen 160. Ogunmwenyin 163. Okoro I 166. Usen 169. Ekuremu 173. Abere 176. Binidogha 179. Gbeoba 182. Itagbene |
| 3. | Egor | 185. Uselu 188. Uwelu 191. Iguediaye 194. Agidigbi's Camp 197. Evbougide 200. Oghedaivbiobaa Ugbighoko | 186. Okhoro 189. Iguikpe 192. Evbougide 195. Egor 198. Iguediayi 201. Oghokhugbo 204. Urunmwon | 187. Useh 190. Ugbighoko 193. Oghedaivbiobaa 196. Environ Camps 199. Iguikpe 202. Oviasuyi Camp 203. Ugbighoko 205. Uwelu |
| 4. | Orhionwon | 206. Sakponba 209. Okuor 212. Ute - Oheze 215. Urhonigbe 218. Oza 221. Uson 224. Idumiru 227. Ukpato 230. Aibiokunla 233. Egbhuru 236. Evbodogun 239. Evbokabua 242. Iguiya 245. Oloten 248. Ugbedun | 207. Idumodin 210. Edummungba 213. Ugo 216. Igbanke 219. Ogan 222. Oloten 225. Idumwebo 228. Igbekhue Iguehanza 231. Abudu 234. Egbokor 237. Evbodohian 240. Evbomede 243. Iyoba 246. Otobayi 249. Ugbeka | 208. Ottah 211. Ologbo Nugu Egbokor 214. Iru egbede 217. Evbobanosa 220. Obagie N Oheze 223. Numagbae Ugokoniro 226. Obozogbe-niro 229. Abudu 232. Ahia 235. Evbodamwen 238. Evbohigbae 241. Idunmunlaka 244. Ohezenaka 247. Owe 250. Uson |

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| | | 251. Ute 254. Ehumwin 257. Idumwebo 260. Numagbae 263. Ugbugo 266. Igbanke Ake 269. Igbontor 272. Oligie 275. Wire-Ake 278. Urhomehe 281. Azagba 284. Eyaah 287. Igueomo Iguevioarhionmwon 292. Ikhueniro 295. Uzala | 252. Agesa 255. Ezzo 258. Idunowina 261. Sakpoba 264. Ugokoniro 267. Idomodin 270. Obi-Ogba 273. Ottah 276. Idale 279. Urhonigbe 282. Emeyon Egba 285. Edummungba 288. Iguevbiebo 290. Iguozebahu 293. Orior | 253. Aideyanba 256. Evbuarhue 259. Iguemokhua 262. Ugboko-Ugo 265. Ukpato 268. Idumiru 271. Ogbahu 274. Umolua 277. Oliege 280. UGU 283. Evbosi 286. Igbakele 289. 291. Ihove 294. Urhobuoma |
| 5. | Ikpoba Okha | 296. Idogbo 299. Agedo 302. Etiosa 305. Obe 308. Obanyantor 311. Uhie 314. Obaretin 316. Aduwawa 319. Evbumufi 322. Iguehana 325. Otene s Camp 328. OLOGBO 331. Avbiana 334. Ekae Erome 340. Idogbo 343. Ihinmwirin 346. Ivbiugo Camp 349. Obagie Nevbosa 352. Obe 355. Ogheghe I 358. Okanaruovia 361. Okha Inland 364. Orogbo Camp 367. Ukhirhi Nekhere 370. Utezi | 297. Evbuomodu 300. Evbumufi 303. Obadoloviyeyi 306. Oghoghobi 309. Ekae 312. Ogheghe 315. Okha 317. Agedo 320. Evbuomodu 323. Ogbeson 326. Uroro 329. Ajoki 332. Egbonodoka 335. Ekosa 338. Evbomoma 341. Igbehimwan 344. Ilegun 347. Obadolovibiya 350. Obaretin 353. Obenevbugo 356. Oghoghobi 359. Okanairo 362. Orogbo 365. Uhie I 368. Umelu 371. Uwusan | 298. Uwusan Obazagbon 301. Obenevbugo 304. Utezi 307. Obagie 310. Upper Sakponba 313. Aduwawa 318. Ekiuwa 321. Ighekpe 324. Ohovbe 327. Ute OKHA 330. Akpe s Camp 333. Egun 336. Erimona Camp 337. 339. Evbosa Ogheghe 342. Ihanomo 345. Imasabor 348. Obagie 351. Obayantor 354. Ogbekpen 357. Okabere 360. Okha 363. Orhibanmu 366. Ukhirhi 369. Uroho |

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| 6. | Uhunmwode | 371. Ehor 374. Igieduma 377. Umagbae South 380. Obadan 383. Ugiamwen 386. Abere 389. Abumwenre 392. Ugbiyaya 395. Ukpogo 398. Orhua 401. Irhiborhibo 404. Ugueghudu 407. Erhua-Nokhua 410. Obagie 413. Uteni 416. Ekuigbo 419. Iguevbiobo 422. Ikhueiro 425. Ogueka 428. Uma 431. Ahor 434. koken 437. Ewedo 440. Iguosula 442. Ute 445. Eguaholor 448. Ike 451. Okhuokhuo 454. Erhuan 457. Iguagba 460. Iguiyase 463. Obanisi 466. Ekhonidunolu 469. Ekhonuwaya 472. Evbosawe 475. Okeze 478. Ugomason 481. Uvbe 484. Ebueneki 487. Idibo 490. Irokhin 493. Ogaga 496. Urhokuosa | 372. Irhue 375. Umagbae North 378. Isi South 381. Iguevbiahiamwen 384. Igueuwangue 387. Ajakurama 390. Ehor 393. Ugbiyokho 396. Ekpan-Irhue Irhue 399. Umokpe 402. Obagie 405. Uhi 408. Igieduma 411. Otofure 414. UMAGBAE 417. gueuwangue 420. Iguezevbaru 423. Irighon 426. Okhuo 429. Urhokuosa 432. Ayenue 435. Ekomufua 438. Eyean 441. Ikiyete 443. Uzalla 446. Igueoke 449. Iyanomo 452. Ugbezee 455. Evbowe 458. Iguagbe 461. Ilobi. 464. EGBEDE 467. Ekhoniguokuen 470. Ekhuaihe 473. Igbogiri 476. Okogo 479. Ugoneki 482. Adesagbon 485. Evbohuan 488. Iguehana 491. Isua 494. Ovbieko | 373. Uhi 376. Isi North 379. Egbede 382. Ogheghe 385. Ebueneki 388. Eyaen 391. Okemuen 394. Ugiamwen 397. Oke-Irhue 400. Egbisi 403. Obazagbon 406. Uhimwento 409. Irhiwe 412. Ugha 415. Azagba 418. Iguevbiahianwen 421. Iguomo 424. Ogheghe 427. Okpagha 430. Agiyamu 433. Egba 436. Evboikhuendo 439. Idumwugha 441. Orio 444. ISI 447. Iguesogban guomo 450. Oghada 453. Urbenisi Ekae 456. Evguogho 459. Iguezomo 462. Izikhiri 465. Aduhanhan 468. Ekhoniro 471. Emuhu 474. Okekpen 477. Ugboyon 480. Ugonoba 483. Ebuenehian 486. Evbozagbo 489. Iguiye 492. Obadan 495. Udeni |
| 7. | Ovia North East | 497. Okada 500. Uhen | 498. Utoka 501. Oghede | 499. Utoka 502. Oghede |

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| | 503. Utese 506. Ora 509. Isiuwa 512. Iguoshodin 515. Ekenomeghele 518. Igueze 521. Iguomo 524. Ofumwgbe Camp 527. Omamini 530. Ugbokun 533. Aghanokpe 536. Gberao 539. Olumoye 542. Uhen 545. Abumwenre 548. Okunuvbe 551. WENGBE 554. Igulye 557. Izakagbo 560. Eko Ekpetin 563. Igbehkue 566. Odiguetue 569. Ugboke 572. Iyowa 575. Ugbogiobo 578. Ekiadolor 581. Ovbogie 584. Iguosa 587. Olefure 590. IGUOSHODIN 593. Iguoshodin 596. Ojogbede 599. Umuame 602. Ite 605. Utoka 608. Evbolekpem 611. Igo 614. Oghede 617. Ekehuan 620. Igbobi 623. Oduna 626. Ughoton | 504. Egbeta 507. Uhiere 510. Oluku 513. Egbeteti 516. Guobadia Camp 519. Igunye 522. Iyanomo 525. Oghobahon 528. Oseminota 531. Ulakpa 534. Egbeta 537. Ogbese 540. Ugbodo 543. Utese 546. Emeh 549. Ugbokuli 552. Agorise 555. Iguosagie 558. Ofumwege 561. Idumwengie 564. Obarenren 567. Okhuo 570. Uhiere 573. Nifor 576. Ukpoke 579. Iguodia 582. OLUKU 585. Okhumwun 588. Uhogua 591. Ayedi 594. Iguosogban 597. Okakegbe 600. Agbaje 603. Nigbemagba 606. Adama 609. Evboro 612. Ikoru 615. Abiala 618. Gelegele 621. Ikpako 624. Orogo | 505. Okokhuo 508. Ogbese 511. Ekiadolor 514. Egboha 517. Igbogo 520. Iguobo 523. Iyeta 526. Okoro 529. Oyibo 532. UHEN 535. Egekpanu 538. Okeodo 541. Ugbuwe 544. KOKHUO 547. Okokhuo 550. OFUNM 553. Igezomo 556. Iwu 559. Ogua 562. Igbanikaka 565. Odighi 568. Osasimwinoba 571. Evboneka 574. Okhuen 577. ADOLOR 580. Isiukhukhu 583. Egbaen 586. Oluku 589. Utekon 592. Iguadolo 595. Ogheghe 598. Okhuninwun 601. Iguogie 604. Ovah 607. Agivbigie 610. Igbobi 613. Obazuwa 616. Egbaton 619. Ibaro 622. Mikotowa 625. Ugbine |
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APPENDIX 7

Department of Geography and Regional Planning,
Faculty of Social Sciences,
University of Benin,
Edo State.
24th January, 2025.

The Executive Secretary,
Primary Health Care,
Benin City, Edo State.

Sir

APPLICATION FOR ETHICAL CLEARANCE (OTABOR-OLUBOR EHIANE)

I write to request for ethical clearance for a PhD (Population Studies) research work titled **"MULTIDIMENSIONAL IMPLICATIONS OF THE PREVALENCE AND DETERMINANTS OF UNINTENDED PREGNANCIES ON THE SUSTAINABLE DEVELOPMENT GOALS IN EDO SOUTH"**.

This will involve the administration of questionnaires to women and health care workers in the antenatal ward of hospitals under the Edo State Primary Health Care.

I look forward to your kind consideration and approval.

Thank you



Otabor-Olubor Ehiane (Mrs)

08037331766

APPENDIX 8

**DEPARTMENT OF GEOGRAPHY AND REGIONAL PLANNING
UNIVERSITY OF BENIN, BENIN CITY, NIGERIA**



DATE: 20th May, 2024

TO WHOM IT MAY CONCERN

LETTER OF IDENTIFICATION

This is to certify that the bearer **Ehiane OTABOR-OLUBOR** with Matriculation Number **PG/SSC0203180** is a Postgraduate student (Ph.D Population Studies) of the Department of Geography and Regional Planning, University of Benin, Benin City, Edo State, Nigeria.

Kindly give her necessary assistance.

Thank you.

Dr. J.E. Agheyi
Ag: Head of Department



APPENDIX 9

HEALTH RESEARCH ETHICS COMMITTEE (HREC)
UNIVERSITY OF BENIN TEACHING HOSPITAL
P.M.B. 1111 BENIN CITY NIGERIA Telephone: 052-600418 Website: ubth.org

CHIEF MEDICAL DIRECTOR Prof. Darlington E. Obaseki
E-mail: darlobitorke@gmail.com
DIRECTOR OF ADMINISTRATION Jim Uwadle, Esq
CHAIRMAN Prof. (Mrs.) Antoinette N. Ofili

HREC OFFICE:
Committee email: ubthresearchethics@gmail.com
Registration Number: NHREC-UBTH-HREC/24/12/2022B

PROTOCOL NUMBER: ADM/E 22/A/VOL. VII/4831/7154

PROPOSAL TITLE: "MULTI-DIMENSIONAL OF THE PREVALENCE AND DETERMINANTS OF UNINTENDED PREGNANCIES IN EDO SOUTH, NIGERIA"

PRINCIPAL INVESTIGATOR(S): OTABOR-OLUBOR EHIANE,

DEPARTMENT/INSTITUTION: DEPARTMENT OF GEOGRAPHY AND REGIONAL PLANNING
FACULTY OF SOCIAL SCIENCES, UNIVERSITY OF BENIN, BENIN CITY NIGERIA

DATE CONSIDERED JANUARY 15TH, 2025

DECISION OF THE COMMITTEE: APPROVED

THIS APPROVAL DATES 15/1/2025 TO 14/1/2026. IF THERE IS DELAY IN STARTING THE RESEARCH, PLEASE INFORM THE HREC SO THAT THE DATES OF APPROVAL CAN BE ADJUSTED ACCORDINGLY

REMARK:

CHAIRMAN: PROF. (MRS) A.N. OFILI

SIGNATURE & DATE: *Antoinette N. Ofili* 15/1/2025

SUPERVISOR (S): PROF T.F. BALOGUN, DR (MRS) R.D. JOHN-ABEBE

DECLARATION BY INVESTIGATOR(S):

PROTOCOL NUMBER (please quote in all enquiries)

Note that no participant accrual or activity related to this research may be conducted outside of these dates and you are to furnish the committee with the research activities at the completion of the study. All informed consent forms used in this study must carry the HREC assigned number and duration of HREC approval of the study. In multiyear research, endeavor to submit your annual report to the HREC early in order to obtain renewal of your approval and avoid disruption of your research. No changes are permitted in the research without prior approval by the HREC except in circumstances outlined in the Code. The HREC reserves the right to conduct compliance visit your research site without previous notification.

Signature & Date: *[Signature]*



ubthresearchethics@gmail.com

Registration Number: NHREC/24/01/2020

APPENDIX 10



EDO STATE HOSPITALS MANAGEMENT AGENCY
P. M. B. 1009
BENIN CITY

Our Ref: A732/T/5

Date: 26th July, 2024

The Medical Directors,
Hospitals Management Agency,
(All Hospitals),
Benin City.



ETHICAL CLEARANCE
RE:EHIANA OTABOR-OLUBOR (MRS)

This is to inform you that the above named person has been given the ethical approval to do a study titled "MULTI-DIMENSIONAL IMPLICATIONS OF THE PREVALENCE AND DETERMINANTS OF UNINTENDED PREGNANCIES ON THE SUSTAINABLE DEVELOPMENT GOALS IN EDO SOUTH, IN HOSPITALS MANAGEMENT AGENCY, EDO STATE , BENIN CITY.

Kindly accord her all necessary assistance.

Thanks.

DR. ODIKO .O.D.
Chairman Ethical Committee
Hospitals Management Board