

Analysis of Diverse Modern Family Planning Methods and Awareness of Its Health Implications Among Reproductive Mothers in Awka South, Anambra State.

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DOI: [10.56201/rjmcit.vol.11.no5.2025.pg1.17](https://doi.org/10.56201/rjmcit.vol.11.no5.2025.pg1.17)

Abstract

The study examines the awareness, utilization, and health implications of diverse family planning methods among reproductive mothers in Awka South, Anambra State. This study employed a survey design. The study used a sample size of 370 respondents, proportional and multi-stage sampling technique was used to select the respondents. The questionnaire was used as an instrument of data collection. Statistical Package for social science (SPSS) version 19 was used to analyze the data. The study was anchored on the Health Belief Model (HBM) and the Social Cognitive Theory. The findings of the study revealed that majority of reproductive mothers in Awka South are aware of the diverse family planning methods, and that the primary sources of information about family planning methods are colleagues/friends/family and healthcare providers. The study also found that respondents experienced side effects from using family planning methods. Therefore, this study concludes that by focusing on education, healthcare access, and the development of safer contraceptive options, the health and well-being of reproductive mothers can be significantly improved.

Keywords: Analysis, Family planning methods, Awareness, Health implications, Reproductive mothers.

1.0. Introduction

Family planning is a critical component of reproductive health, offering individuals and couples the ability to control the timing and spacing of pregnancies, thereby improving maternal and child health outcomes (World Health Organization [WHO], 2021). In Nigeria, a country with high maternal mortality rates, family planning remains underutilized, particularly in rural and semi-urban areas like Awka South, Anambra State. Despite the availability of various contraceptive methods, studies suggest that many reproductive mothers in this region are either unaware of the diverse family planning options or lack sufficient knowledge of their health implications (Akinyemi et al., 2020; Nigerian Demographic and Health Survey [NDHS], 2018). However, Family planning according to Alagbu et al. (2021) is an indispensable component of public health policy, which is pivotal in promoting reproductive health and well-being. Herbert et al. (2014), defined family planning as any conscious effort to limit or space the number of children one desires to have, families and individuals in any community. By affording individuals and couples access to a spectrum of contraceptive options, it enables them to make informed decisions regarding the timing and spacing of pregnancies.

This proactive approach mitigates the incidence of unintended pregnancies, consequently reducing the risks associated with maternal and infant mortality, as well as curtailing the necessity for unsafe abortions. Hence, Falaye et al. (2016), describe family planning as a proven approach for increasing contraceptive use with a view to reduce fertility rates globally. Furthermore, family planning initiatives contribute significantly to the enhancement of maternal and child health outcomes by facilitating the postponement of pregnancies and allowing adequate intervals for maternal recovery between births, thus fostering improved health outcomes for both mothers and offspring.

Moreover, family planning interventions intersect with broader public health objectives, notably in the area of combating HIV/AIDS and other sexually transmitted infections. Through integrated programs, family planning endeavours promote dual protection by providing comprehensive education and access to barrier methods, thus aiding efforts to curtail the transmission and prevalence of such diseases. Additionally, the environmental and socioeconomic implications of family planning are profound, as it aids in stabilizing population growth, alleviating strain on finite natural resources, and supporting economic development by enabling families to channel resources towards education, health, and productive endeavours. In summary, family planning epitomizes a multifaceted approach to fostering healthier, more equitable, and sustainable societies, representing a cornerstone of comprehensive public health strategies worldwide.

It is against this backdrop that this research gives an in-depth analysis of diverse family planning methods and awareness of their health implications among reproductive mothers in Awka South, Anambra State.

2.0. Statement of Problem

In an ideal situation, reproductive mothers in Anambra State would have comprehensive knowledge and easy access to diverse family planning methods (Olubodun et al., 2020). This awareness would enable them to make informed choices that best suit their health and lifestyle needs. (Akinyemi et al., 2022). Family planning services would be readily available and culturally acceptable, leading to improved maternal and child health outcomes, reduced rates of unintended pregnancies, and enhanced overall well-being of families in the region (UNFPA, 2019). Despite efforts to promote family planning, many reproductive mothers in Anambra State lack sufficient awareness and understanding of the various family planning methods available. This lack of

knowledge results in limited use of these methods, leading to high rates of unintended pregnancies, unsafe abortions, and other health complications (National Population Commission, 2019). Cultural, religious, and socio-economic barriers further exacerbate the situation, preventing women from accessing and utilizing family planning services effectively (Guttmacher Institute, 2020).

The government has initiated several programs to address family planning issues in Anambra State, including the National Family Planning Program aimed at increasing awareness and access to family planning services across the country (Federal Ministry of Health, 2017), Maternal and Child Health Projects focused on improving the health of mothers and children through better family planning and reproductive health services (WHO, 2018). Despite these efforts, significant challenges remain. Many women still lack adequate information about the various family planning options and their health implications (National Population Commission, 2018). Cultural and religious beliefs, as well as misinformation, continue to hinder the adoption of effective family planning practices (Guttmacher Institute, 2020). Additionally, healthcare infrastructure and resource constraints limit the accessibility and quality of family planning services, particularly in rural areas (WHO, 2021).

This study is motivated by the persistent gaps in awareness and utilization of family planning methods among reproductive mothers in Anambra State. By analyzing the current state of family planning knowledge and its health implications, this research aims to provide valuable insights into how family planning methods are perceived and utilized by reproductive mothers, along with an understanding of the health implications associated with each method. By addressing these gaps, the research will contribute to efforts aimed at improving maternal health and promoting informed decision-making among reproductive women in Awka South, Anambra State.

2.1. Objectives of the study

This study analyzed the diverse family planning methods and awareness of their health implications among reproductive mothers in Awka South, Anambra State. However, the specific objectives are;

1. To assess the awareness levels among reproductive mothers in Awka South, Anambra State, regarding diverse family planning methods.
2. To explore the health implications associated with different family planning methods among reproductive mothers in Awka South.

2.2. Research Questions

Based on the foregoing objectives, the following research questions were formulated to proffer solutions to the problem of this study;

1. What is the level of awareness among reproductive mothers in Awka South, Anambra State, regarding different family planning methods?
2. What are the health implications associated with different family planning methods among reproductive mothers in Awka South?

3.0. Review of Literature

3.1. An Overview of Family Planning Methods:

Family planning according to Amiesimaka and Payam (2024) refers to the deliberate use of various contraceptive methods and practices to prevent or plan pregnancies. It is, however, Starrs et al (2018) posited that it is crucial for promoting reproductive health, preventing unintended

pregnancies, and improving maternal and child health outcomes. Different family planning methods, therefore, exist, each with its unique benefits, side effects, and mechanisms of action (Logan et al., 2022). Family planning methods are generally categorized into natural methods, barrier methods, hormonal methods, permanent methods, and intrauterine devices (IUDs). This review explores these methods in detail, with a focus on their characteristics, advantages, disadvantages, effectiveness and potential health implications.

Natural family planning (NFP) methods, as asserted by Akinwale et al (2020), are based on observing and interpreting natural fertility signals such as menstrual cycle regularity, cervical mucus patterns, and basal body temperature. The rhythm method and withdrawal are two common types of natural methods. The rhythm method, also known as the calendar method, relies on tracking a woman's menstrual cycle to predict fertile days. This method assumes that ovulation occurs around the 14th day of the menstrual cycle, counting from the first day of menstruation (Trussell, 2011, as cited in Akinwale, et al., 2020). Couples are said to avoid intercourse during the estimated fertile window to prevent pregnancy. While the rhythm method is inexpensive and hormone-free, its failure rate is relatively high, ranging from 13 to 24% per year, primarily due to variability in cycle length (Obembe et al., 2018). The withdrawal method, or coitus interruptus, on the other hand, involves the male partner withdrawing before ejaculation (Bhatt & Singh, 2021). Türk and Terzioğlu (2019), posit that it is a free and accessible method, but relies heavily on self-control and timing. The failure rate of withdrawal is estimated to be between 4% with perfect use and 22% with typical use, as pre-ejaculatory fluid may contain sperm (Akinwale et al., 2020).

Also, barrier methods work by preventing sperm from reaching the egg, typically by blocking the cervix or preventing sperm deposition within the vagina (Michaud et al., 2021). Common barrier methods as posited by Akinwale et al. (2020) include condoms, diaphragms, and cervical caps. Male and female condoms are the most widely used barrier methods. Male condoms are worn over the penis, while female condoms are worn inside the vagina. (Shallie & Haffajee, 2021). Condoms, therefore are not only effective at preventing pregnancy but also provide protection against sexually transmitted infections (STIs), including HIV (Sayegh & Badr, 2020). The typical-use failure rate of male condoms according to Obembe et al. (2018) is around 13%, while the perfect-use failure rate is 2%. Female condoms, as asserted by Michaud et al. (2021), have a higher typical-use failure rate, of 21%, and a perfect-use failure rate of 5%. Another barrier method is the diaphragm, the diaphragm according to Sayegh and Badr (2020), is a dome-shaped silicone device inserted into the vagina to cover the cervix. It is typically used in combination with spermicide to prevent sperm from entering the uterus. When used correctly, it has a typical-use failure rate of 12%. The cervical cap, on its own, is a smaller device and works similarly, but its effectiveness is somewhat lower, with a typical-use failure rate of 14% to 23% (Hatcher et al., 2018).

Hormonal contraceptives are therefore the type of modern method of family planning that is used by teenagers and women to prevent pregnancy by inhibiting ovulation and also by preventing sperm from penetrating through the cervix. (Emeonye et al., 2023). They are Oral contraceptives (OCs), commonly referred to as "the pill," and are among the most popular hormonal contraceptive methods. Extant literature has shown that at least 600 million women use effective contraceptives now and of different types e.g., injectables, pills, (tablets), plants etc. hormonal contraceptives contain either estrogen or progesterone or both. Pills are hormonal active contraceptives taken by women daily. They contain either two hormones' OCs offer multiple benefits, including regulating

menstrual cycles and reducing the risk of ovarian and endometrial cancers, but they may have side effects such as nausea, weight gain, and increased risk of blood clots (Kalamar et al., 2018). Injectable contraceptives, such as Depo-Provera, are progestin-only injections administered every three months. They are highly effective, with a typical-use failure rate of 4% (Hatcher et al., 2018). Also, Injectables are convenient for women who prefer not to take daily pills. However, side effects such as changes in menstrual bleeding patterns and weight gain may discourage some users (Emeonye et al., 2023). Implantable contraceptives on their own are small, rod-like devices inserted under the skin of the upper arm. They release progestin to prevent ovulation and thicken cervical mucus. Implants are among the most effective methods, with a failure rate of less than 1% (Anate et al., 2021). Implants are effective for 3 to 5 years, depending on the brand, and are highly recommended for women seeking long-term contraception without the need for daily maintenance. Permanent methods also referred to as sterilization, are designed for individuals or couples who are certain they do not want children in the future (Adedini et al., 2018). These methods are highly effective and provide long-term contraception. This method includes Tubal ligation which involves blocking or severing the fallopian tubes to prevent eggs from reaching the uterus. Although it is considered permanent, some women may seek reversal, though success rates for tubal ligation reversal are low and Vasectomy, which is a male sterilization procedure that involves cutting or sealing the vas deferens to prevent sperm from entering the ejaculate. Like tubal ligation, vasectomy has a failure rate of less than 1% (Sayegh & Badr, 2020). Vasectomy is a simple, less invasive procedure compared to female sterilization and can often be performed in an outpatient setting. (Abubakar & Abubakar, 2023).

Intrauterine Devices (IUDs) are highly effective, safe and well-tolerated contraceptives with typical-use failure rates similar to that of surgical sterilization (Trussell, 2011, as cited in Lohr et al., 2017). IUDs are small, T-shaped devices inserted into the uterus by a healthcare provider to prevent pregnancy. (Jatlaoui et al., 2017). There are two types of IUDs: hormonal and copper. Hormonal IUDs, such as Mirena, release progestin to prevent ovulation, thicken cervical mucus, and thin the uterine lining. They are effective for 3 to 7 years, depending on the type, and have a failure rate of less than 1% (Hatcher et al., 2018). In addition to their high efficacy, IUDs provide the convenience of long-term contraception without requiring daily attention. Copper IUDs, such as ParaGard, do not contain hormones. Instead, the copper acts as a spermicide, creating an environment in the uterus that is hostile to sperm. Copper IUDs are effective for up to 10 years and have a failure rate of less than 1% (Sayegh & Badr, 2020). They are a good option for women who cannot or prefer not to use hormonal contraceptives. However, some users may experience heavier menstrual bleeding and cramping (Lohr et al., 2017).

3.2. Awareness of Family Planning Methods

Olubodun et al. (2020) describes the awareness of family planning methods as an individual's knowledge and understanding of the various techniques and approaches available to prevent or control pregnancy. This includes knowing about different contraceptive methods, their effectiveness, how they are used, potential side effects, and where to access them. It also entails understanding the range of contraceptive options available, including their effectiveness, side effects, and correct usage. (Abubakar & Abubakar, 2023). Awareness of family planning methods according to Alagbu (2021), ensures access to family planning services and supplies, addressing cultural sensitivities, promoting gender equality, and advocating for reproductive rights.

Importantly, education on family planning methods is essential for reproductive mothers to fully understand the risks and benefits of each method (Amiesimaka & Payam, 2024). Women with higher levels of awareness about the health implications of family planning methods as asserted Perron et al. (2023), tend to make more informed and appropriate contraceptive choices. The World Health Organization (WHO, 2019) recommends that family planning services should include counseling to ensure women understand the potential side effects and long-term impacts of their chosen methods.

In low-income and rural areas, access to accurate information is often limited, which hinders the ability of reproductive mothers to make informed decisions about family planning (Ibeziako, 2022). Thus, health systems in Nigeria have made efforts in the past and also recently to bridge the information gap in low-income and rural areas, by running a number of family planning awareness campaigns, primarily driven by the government and supported by local and international organizations focused on improving access to and knowledge about family planning methods, addressing misconceptions, and promoting reproductive health. These campaigns include the “Get It Together”, *Family Planning 2020 (FP2020)*, *Family Planning: A Key to Economic Development*, *She Decides*, *One Couple, One Child*, *Male Involvement in Family Planning*, *It's Your Life, It's Your Future*, *Know Your Rights, Know Your Options*, *Myths, Misconceptions and Misinformation*, *Safe Sex in the Time of COVID-19*, *It's Your Life, It's Your Responsibility*, *#YourRightToChoose*, and many more. But, to the best of the ability of the researcher, no awareness campaign has been organized in Nigeria on the health implications of diverse family planning methods on the users.

3.3. Factors Influencing Awareness and Levels of Family planning method Use

The influence of age, number of children, educational level, socioeconomic status, fertility intention, cultural belief, awareness of Family Planning (FP) methods, fear of side effects, partner's disapproval, misconceptions and myths on low uptake of modern contraceptive methods are the factors influencing family planning methods use (Ekholuenetale et al., 2022). Age according to Alo et al. (2020) plays a significant role in the awareness and use of contraceptives positing that younger women and men may have limited knowledge about contraceptive options and their correct usage. On the other hand, older individuals may be more knowledgeable, especially those who have been sexually active for a longer period (Sahasrabuddhe et al., 2018). In their study, Maitanmi et al. (2021) found that most (32.8%) of the respondents were 26-35 years old. And that they had good knowledge about contraceptives, which could be related to their high level of education. Their findings also showed that religion, cultural or tribal beliefs, cost of the method, the distance of the clinic from the place of residence and side effects of the methods were factors associated with contraceptive choice.

Also, mass media and health communication efforts have a significant impact on contraceptive awareness (Anyianuka, 2022). The media are essential tools through which health information can be disseminated. It will be very difficult for any health campaign to succeed without the full involvement of the media. The reach and effectiveness of family planning however, influence individuals' knowledge and attitudes toward contraception. Public health campaigns through television, radio, and social media have proven to increase awareness of contraceptive methods, promote the benefits of family planning, and challenge myths surrounding contraception (Hellwig et al., 2023).

Information provided by healthcare providers, such as family planning counsellors, on the other hand also plays a key role in educating individuals about contraceptive options and their proper

use (Jahanfar et al., 2024). When healthcare workers are trained and knowledgeable, they can influence patients' decisions to use contraception effectively and also inform them on the probable health implication involved. (Uhuo et al., 2020).

3.4. Health Implications of Family Planning Methods

The choice of family planning method can have various health implications, including both benefits and risks (Akinyemi et al., 2022). These effects according to Teal and Edelman (2021), vary depending on the method used, the individual's health status, and other socio-economic and environmental factors. While hormonal methods, as asserted Pannain, et al (2022) offer effective contraception and benefits, like reduced menstrual discomfort and cancer prevention, they also come with risks such as cardiovascular issues and mood changes. Anyianuka, (2022) affirmed that the barrier methods, though effective at preventing STIs, may however, be less reliable in preventing pregnancy and can cause irritation. Olubodun et al. (2020) on the other hand, pointed out that the permanent methods like sterilization offer a permanent solution but that the risks associated with it is the surgical procedures which when not properly done could led to complications.

Therefore, understanding these implications is essential for individuals to make informed choices about family planning that align with their health needs and reproductive goals (Okigbo et al., 2017). Other health implications associated with the use of diverse family planning methods as shown by extant literature includes: cardiovascular risks, mood changes, nausea, headaches, and weight gain, bone density loss, irregular bleeding, risk of pelvic inflammatory disease, uterine perforation, and latex allergies, irreversibility. Among many others

4.0. Empirical Review

Sanni and Ghose (2020) studied "Family Planning Communication Through mass media and health workers for Promoting Maternal Health Utilization in Nigeria": Using a cross - sectional survey method. The study found that health communication programmes, through community health workers or mass media, are key strategies to promoting awareness and uptake of essential maternal health services. Findings indicate that family planning communication through mass media and health workers could potentially improve the utilization of antenatal and health facility delivery services in Nigeria.

Chukwuji et al. (2018), on the other hand conducted research on Awareness, access, and utilization of family planning information in Zamfara State, Nigeria. Using a survey method, the finding revealed that married women of Zamfara State are aware of various contraception methods, but factors such as culture, spouse's disagreement, financial constraint, fear of side effects, and non-availability of close health care facilities influence the use of family planning and attitudes towards the innovation.

Also, Ojih et al. (2023) in their study, Cultural practices and adoption of national family planning communication campaigns on select ethnic groups in Nigeria found that majority of the people were exposed to information on condoms, implants, and Intrauterine Contraceptive Devices (IUCDs) (Cuppar T) in the course of the campaign; however, most of them were not exposed to information on Oral Pills, Vasectomies, Tubal ligation and Injections. Findings also revealed that knowledge of modern family planning in the study areas (51.2%) was below the 85.8% national family planning knowledge threshold and far below the expected 95% target of the 2017–2020 family planning communication campaign goal. poor adoption of the campaign messages was

associated to their cultural beliefs. The study concluded that family planning was often accepted among people whose ways of life have been significantly altered in favour of the idea.

Gothwal, et al. (2020) explored the knowledge, attitude, and practice of contraception at AIIMS, Jodhpur India, on 173 nursing staff. Structured questionnaire has been used for data collection. Out of 173 about 75.7% had received information regarding contraceptives from health personnel, 79.8% got information through media, and more than half (73.4%) of the respondents were ready to use postpartum contraception. As per (89.6%) respondents, health centers were the key sources of family planning services which include pharmacies (54.9%) and clinical personnel (54.3%). To prevent unwanted pregnancy, 80.9% of respondents were using contraceptive methods. Almost half (71%) of the respondents had positive perspective and 14% had an unfavorable viewpoint toward contraceptive methods. Out of 173, 64.1% choose male condoms as Rank 1, 57.8% intrauterine devices as Rank 2, and 58.3% lactational amenorrhea method as Rank 3 for postpartum contraception. The study showed an association between the practice of contraceptive measures and marital status, age, and family size.

5.0. Theoretical framework

The foundation of this study is hinged on the Health Belief Model (HBM). In the context of diverse family planning methods and awareness of their health implications among reproductive mothers, the Health Belief Model (HBM) offers a comprehensive framework for understanding and addressing key factors influencing decision-making. Firstly, perceived susceptibility plays a pivotal role as mothers assess their vulnerability to unintended pregnancies and reproductive health issues, shaping their motivation to seek out family planning information. Also, perceived severity guides mothers in recognizing the seriousness of potential health consequences, such as maternal and infant mortality, associated with inadequate family planning, thus reinforcing the importance of proactive health behavior. Perceived benefits highlight the advantages of adopting family planning methods, including improved maternal and child health outcomes, economic stability, and enhanced quality of life for families, serving as strong motivators for uptake. However, perceived barriers such as cultural norms, financial constraints, and access limitations can impede adoption. By addressing these barriers, interventions can effectively promote awareness and access to family planning services. Additionally, cues to action, such as healthcare provider recommendations and community outreach initiatives, can stimulate mothers to take proactive steps towards family planning. Finally, enhancing self-efficacy through education and skill-building empowers mothers to confidently navigate family planning choices, ultimately leading to improved reproductive health outcomes within the community.

The Social Cognitive Theory (SCT) on the other hand, provides a nuanced lens through which to understand the interplay of individual, environmental, and behavioural factors. Firstly, SCT emphasizes observational learning, suggesting that mothers may observe and model family planning behaviors based on the actions of peers, family members, or influential community figures. Positive role modeling of family planning practices can serve to normalize and promote uptake within the community. Also, SCT underscores the importance of self-efficacy, or one's belief in their ability to successfully perform a behaviour, in shaping decision-making processes. Interventions aimed at increasing mothers' self-efficacy through education, skill-building, and access to supportive resources can enhance their confidence in selecting and effectively using family planning methods.

Additionally, SCT highlights the role of environmental factors, such as social norms, cultural values, and access to healthcare services, in influencing behaviour. By creating supportive

environments that encourage open dialogue, destigmatize family planning, and improve access to services, interventions can effectively address contextual barriers and promote informed decision-making among reproductive mothers. SCT, also, emphasizes the reciprocal nature of interactions between individuals and their environments, suggesting that changes at the individual level, such as increased knowledge and self-efficacy, can lead to broader societal changes in attitudes and behaviors towards family planning. Thus, by leveraging the principles of SCT, interventions can foster a holistic approach to promoting awareness and uptake of diverse family planning methods, ultimately contributing to improved reproductive health outcomes in the community.

By understanding and leveraging these Theories, they provide a framework for promoting health behaviour change and improving health outcomes through interventions that target individual, social, and environmental factors.

6.0. Methodology

This study was designed as a survey. The study population comprises of reproductive mothers in Awka South, Anambra State. The estimated population of reproductive mothers in Awka South according to the Anambra State Bureau of Statistics stands at 12,587 (Population Projection 2022). For the survey, the sample size of this study is 370 calculated using Krejcie and Morgan's sample size calculation for a 95% confidence level. The multi-stage sampling technique was used. In the first stage, out of the nine (9) communities in Awka South namely; Amawbia, Umuawulu, Nise, Awka-Ifite, Isiagu, Mbaukwu, Nibo, Ezinato and Okpuno. six (6) communities namely; Amawbia, Awka-Ifite, Nibo, Ezinato, Isiagu and Okpuno were selected using the table of random numbers. In the second stage, using the same simple random sample, two villages were selected from each of the six communities chosen making it a total of 12 villages as shown below; **Amawbia:** Enuoji, Ngene, **Awka-Ifite:** Anumeze, Umudike-Irioman, **Nibo:** Ezeawulu, Umuamuno, Ezinato: Ndiora, Ndikpa, **Isiagu:**Anumeze, Gbaragu, **Okpuno:**Nodu, Umu-odu.

In the third stage, the proportional sampling technique was used to determine the number of sample units to be assigned to each of the villages selected. The formula is shown below.

$$X = \frac{n}{N} \times \frac{370}{1}$$

Where NR = number of units (to be selected from a cluster)

n = total number of units in the cluster

N = population

COMMUNITIES	VILLAGES	POPULATION	SAMPLE SIZE
Amawbia	Enuoji, Ngene	1040 1000	31 30
Awka-Ifite	Anumeze, Umudike-Irioma	1026 1001	30 29
Nibo	Ezeawulu, Umuamuno	1400 1100	33 24
Ezinato	Ndiora, Ndikpa	1121 1107	30 26
Isiagu	Unueze, Gbaragu	1120 1064	27 26
Okpuno	Nodu, Umuodu	1030 578	49 35
Total	12 Villages	12,587	370

In distributing the questionnaire, the researcher used a Non-probability Convenience Sampling, whereby questionnaires were served only to respondents who were available at the time and showed a willingness to be sampled when the researcher visited each of the chosen villages. A questionnaire containing 11 questions (open-ended and closed-ended) was used as the instrument for data collection. The researcher also helped in the filling of some of these questionnaires as some of the reproductive mothers were semi- illiterates. Data gathered were presented and analyzed using SPSS 19 data analysis software.

7.0. Data Presentation and Analysis

The age distribution of respondents indicates that 2.3% of the sample population are below 20years, 13.2% are within 20-29years, 35.2% are within 30-39 years, 38.6% are within 40-49years and 10.7% are 50 years and above. This data indicates that majority of the respondents are between 40-49 years of age which suggests that middle-aged individuals constituted the largest portion of the sample. On the respondents' marital status, data shows, 10% of the respondents are single, 70% are married, 10% are divorced and 10% are widows. This therefore implies that majority of the respondents are married. The occupation of respondents as shown in the data indicates that 15.5% of the sample population are unemployed, 49.5% are self-employed, 30% are employed and 5% are students. It can be deduced from the data that a significant proportion (49.5%) of reproductive mothers' residents in Awka South are majorly self- employed. Data on the number of the respondents' children, shows that 30% of the respondents have 1 -2 number of children, 50% have 3-4 number of children and 20% have 5 or more children. Apparently, there were no respondent with no child. This data indicates that majority of the respondents have 3-4 number of children.

Research Question 1: Are you aware of the diverse family planning methods available?

Table 1: Level of reproductive mothers' awareness to family planning methods.

Awareness	Frequency	Percentage
Yes	320	86.5%
No	50	13.5%
Total	370	100%

Data in Table 1 shows that a greater number (86.5%) of the reproductive mothers are aware of the family planning methods. While a smaller 13.5% of the mothers are not aware. This implies that the high percentage of awareness is a positive sign, but there is still an insignificant portion of the reproductive mothers that could benefit from educational interventions to increase awareness about family planning methods. However, addressing the gap in awareness could improve overall reproductive health education and access to family planning services.

Table 2: Respondents' channels of awareness to diverse family planning methods

	Mass media	Internet	Healthcare/ Providers	Colleagues/ Friends/Family	Community Programmes
Yes	60% N = 222	72% N = 267	78% N = 289	82.4% N = 305	60% N = 221
No	40% N = 148	28% N = 103	22% N = 81	17.5% N = 65	40% N = 149
Total	100% N = 370	100% N = 370	100% N = 370	100% N = 370	100% N = 370

Data in table 2 shows that majority of the reproductive mothers (82.4%) channels of awareness are colleagues/friends/family, closely followed by (78%), of the respondents who said theirs is the healthcare providers, (72%) said the internet, (60%) said mass media and community programmes respectively. These channels seem to reach a large portion of the population, suggesting their importance in spreading information about family planning methods. Mass media and community programs, reach fewer respondents (60% and 60%, respectively). Efforts could be made to enhance the reach of these channels to ensure that more people are aware of family planning methods. However, colleagues, friends, and family play a crucial role, with more than 80% of respondents gaining awareness through these channels. This implies that peer influence and informal social networks are critical in educating the population about family planning.

Table 3:
The types of family planning methods the respondents are aware of

	Are you aware of Oral contraceptive pills?	Have you heard of Injectable contraceptives?	Are you aware of the Intrauterine devices (IUDs)?	Have you heard of Condoms?	What of Implants?	Have you heard of emergency contraception?	What of Natural methods (e.g., calendar method, withdrawal)?
Yes	90.3% N = 334	81.1% N = 300	99.2% N = 367	93.2% N = 345	84.3% N = 312	36.3% N = 134	94.5% N = 350
No	9.7% N = 36	18.9% N = 70	0.8% N = 3	6.8% N = 25	15.7% N = 58	63.7% N = 236	5.5% N = 20
Total	100% N = 370	100% N = 370	100% N = 370	100% N = 370	100% N = 370	100% N = 370	100% N = 370

Table 3 shows that 90.3% (334 respondents) are aware of oral contraceptive pills. Oral contraceptive pills as seen in Table 3 are the most well-known method among the respondents, with a very high level of awareness. This however implies that oral contraceptives are likely the most commonly discussed or promoted family planning method. 81.1% (300 respondents) are aware of injectable contraceptives. 99.2% of the respondents are aware of IUDs, 93.2% are aware of condoms, 84.3% are aware of implants, 36.3% are aware of emergency contraception while 94.5% of the reproductive mothers are aware of natural methods, such as the calendar method or withdrawal. Data from Table 3 implies that methods like oral contraceptive pills, injectable contraceptives, and natural methods show very high awareness, this suggests that these methods are well-known to a majority of the population, with minimal gaps in awareness. However, there is still a portion of the population that is less familiar with methods like emergency contraception which suggests a potential area for improvement in education and access to these methods.

Research question 2: What are the perceived health implications associated with different family planning methods among reproductive mothers in Awka South?

Table 4: Have you experienced any side effects from using family planning methods?

Variables	Frequency	Percentage
Yes	289	78.1%
No	81	21.9%
TOTAL	370	100%

The data in Table 4 reveals that 78.1% of the respondents have experienced side effects using family planning methods while 21.9% of the respondents have not experienced side effects using family planning methods. This data implies that side effects from family planning methods are rampant among reproductive mothers in Awka South. The high level of side effects experienced by these women, shows that there may be health implications related to the use of these methods, which could impact their acceptance and long-term use.

Table 5: Which side effects have you experienced?

Variables	Frequency	Percentage
Weight gain	100	27.0%
Nausea	46	12.4%
High blood pressure	80	21.7%
Mood changes	42	11.3%
Irregular bleeding	102	27.6%
TOTAL	370	100%

The data in Table 5 shows that 27.0% of the respondents have experienced weight gain as a side effect of using the family planning method, 12.4% have experienced nausea as a side effect of using family planning method, 21.7% have experienced high blood pressure while using family planning methods, 11.3% have experienced mood changes as a side of using family planning method and 27.6% have experienced irregular bleeding as a side effect of using family planning method. Therefore, it indicates that the two most common side effects are irregular bleeding (27.6%) and weight gain (27.0%). Therefore, high prevalence of weight gain and irregular bleeding simply implies that individuals may need more information and guidance on the associated side effects of various family planning methods. The experience of these side effects may influence users' choices when selecting a family planning method, and some individuals may change methods if the associated side effects become intolerable.

8.0. Discussion of Findings

This study's findings showed that most reproductive mothers (86.5%) are aware of family planning methods, while **13.5%** are not. These findings corroborate with the findings of Chukwuji et al. (2018), that married women of Zamfara State are aware of various contraception methods, but factors such as culture, spouse's disagreement, financial constraint, fear of side effects, and non-availability of close health care facilities influence the use of family planning and attitudes towards the innovation.

Findings in Table 2 indicated that the primary sources of information about family planning methods are colleagues/friends/family (82.4%) and healthcare providers (78%), followed by the internet (72%) and then mass media/community programs (60%). This finding disagrees with the finding of Sanni and Ghose (2020) that health communication programmes, through community health workers or mass media, are key strategies to promoting awareness and uptake of essential maternal health services. However, the authors think that social networks appear to be a crucial vehicle for spreading information, thereby highlighting the importance of peer influence in reproductive health education.

According to the analysis in Table 3, Awareness levels are high for oral contraceptive pills (90.3%), IUDs (99.2%), condoms (93.2%), and natural methods (94.5%). However, emergency contraception has significantly lower awareness at 36.3%. The high awareness of methods such as oral contraceptive pills, injectable contraceptives, IUDs, and condoms suggests these methods are widely discussed and promoted. This is encouraging as it implies that most women are informed about commonly available family planning options. The findings in table 3 to a great extent confirms the assertion of Ojih et al. (2023) that majority of the people were exposed to information on condoms, implants, and Intrauterine Contraceptive Devices (IUCDs) (Copper T) in the course of the campaign but that most of them were not exposed to information on Oral Pills, Vasectomies, Tubal ligation and Injections.

Findings in Table 4 showed that 78.1% of respondents reported experiencing side effects from using family planning methods, while 21.9% indicated they have not experienced side effects of any sort. The high percentage of women experiencing side effects underscores the importance of considering health implications when using family planning methods. The above findings confirm the assertion by Akinyemi et al. (2022) that the choice of family planning method can have various health implications, including both benefits and risks.

9.0. Conclusion

This study provides valuable insights into the awareness and health implications of family planning methods in Awka South. While there is a generally high level of awareness, addressing gaps in education and managing the side effects of current family planning methods will be crucial for improving reproductive health outcomes in the region. By focusing on education, healthcare access, and the development of safer contraceptive options, the health and well-being of reproductive mothers can be significantly improved.

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