Knowledge and Utilization of Modern Contraceptives Among Women of Childbearing Age in UCTH, Cross River State, Nigeria

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Abstract

This study was conducted to assess knowledge and utilization of modern contraceptives among women of childbearing age in University of Calabar Teaching Hospital, Calabar. Three (3) research questions were raised and one hypothesis formulated to guide the study. The Health Belief Model was employed as a theoretical guide to the study. A descriptive cross sectional survey design was used to study a total of 107 women of childbearing age conveniently selected from Antenatal Clinic in UCTH, Calabar. The instrument for data collection was a questionnaire structured in line with the research objectives. The instrument was duly validated and its reliability established. Data collected were analyzed using descriptive statistics including frequency count, simple percentages, mean and standard deviation; while the research hypothesis was tested using Chi-square statistical test of association significant at 0.05. Findings of the study revealed that there is a good knowledge and high level of utilization of modern contraceptives among the study participants. The demographic determinants of utilization of contraception were; age, marital status, educational level and parity. There is a statistically significant relationship between knowledge and utilization of modern contraceptives among women of childbearing age in UCTH, Calabar (p<0.05). Based on these findings, it is recommended that government through the ministry of health should provide a forum to educate women of childbearing age on the need and benefits of utilizing modern contraceptives as a strategy to control unwanted pregnancies.

Keywords: Knowledge, Utilization, Modern Contraceptives, Women of Childbearing Age.

Background of the study

Modern contraceptives are techniques and technologies designed to counter the body biology functioning and permit complete to ultimate sexual freedom while at the same time reducing the risk of pregnancy. According to above explanation, various products, and medical approaches are described as modern contraceptives. They come in form of: short-acting contraceptives example pills, injectables, and condoms; Long-Acting Reversible Contraceptives (LARC) example implants and Intrauterine Devices and systems (IUDs); and permanent contraceptive methods also-called sterilization (Kharbouch, Idri, Rachad, Alami, Redman & Stelate, 2021).

Among the 1.9 billion Women of Reproductive Age group (15-49 years) worldwide in 2019, 1.1 billion have real need for family planning; out of these, 842 million are using contraceptive methods, and 270 million have an unmet need for contraception globally (Kantorová, Wheldon, Ueffing & Dasgupta, 2020).The proportion of the need for family planning satisfied by modern methods, Sustainable Development Goals (SDG) indicator 3.7.1, has stagnated globally at around 77% from 2015 to 2020 but increased from 55% to 58% in the Africa region.

Globally, contraceptives help to prevent an estimated 2.7 million infant deaths and the loss of 60 million of healthy life in a year. At least 22,500 women died from unsafe abortion complications, 74 million unplanned pregnancies occur every year in the developing world. Avoiding different factors associated with the use of contraceptive methods could avert globally 54 million unintended pregnancies (80 per 1,000 women in Africa), 79,000 maternal deaths and one million infant deaths each year (Ubeda, 2010). Modern contraceptives aim at delaying pregnancies in young girls who are at increased risk of health problems from early childbearing, and preventing pregnancies among older women who also face increased risks (WHO, 2021).

In world contraceptive day of 2020, its usefulness on sex and reproductive health was emphasized as a cornerstone for the year's celebration. In Nigeria, Partnership for Advocacy in Child and Family Health @ Scale, affirm that use of modern contraceptive is a necessary work tool to achieve the nation's goals in maternal, neonatal and child health.Evidence has shown that in countries with high rates of contraceptive use, there is a lowered rate of maternal and infant mortality, with overall improvement in the health of women, children and families.

Moreover, access to contraception and family planning is a key to attaining several Sustainable Development Goals (SDGs) targets in connection to gender empowerment. Indicator 3.7.1 of SDG 3, the health SDG, emphasizes that women of reproductive age have their need for family planning satisfied with modern methods.

The dividends of modern contraceptive methods include longer child spacing between pregnancies, prevention of unplanned pregnancies, delay in births, and improved survival rates of neonates and children as there will be more time for quality parenting and care of

children. WHO (2020) linked use of contraception with improved maternal health outcomes. What's more, the International Federation of Gynecology and Obstetrics (FIGO) observed that the use of contraceptives reduced maternal mortality rates to half.

Further research by WHO (2020) reveled a correlation between the level of contraceptive use and infant mortality rates. In one study, researchers noted an average infant mortality rate of 100 deaths per 1,000 live births in countries with a less than 10 per cent contraceptive use. On the contrary, countries with a contraceptive use rate of between 10 and 29 per cent saw an

appreciation in average infant mortality rate of only 79 per 1000 live births.
In 2018, the world utilization of contraceptives was emphasized, that it can lead to prevention of over 12,000 maternal deaths. In the same vein, the use of contraception averted 12,000 infant deaths, all according to the National Family Planning Blueprint statistics. The Federal Government of Nigeria accepts and endorses the importance of modern contraceptives as a key strategy to support the family health of Nigerians. This was contained in the National Family Planning Blueprint of 2020-2023.

The Nigerian Federal Ministry of Health, in recognition of the benefits and the strategic importance of modern contraceptive, committed to achieving a modern contraceptive prevalence rate (mCPR) of 27% by the year 2023. As at 2018, the mCPR stood at 17 %, suggesting that Nigeria is unlikely to attain the 27 % target.

The mCPR differs widely from state to state in Nigeria. The 2018 Demographic Health Survey showed low uptake of mCPR for both married and unmarried women in states of the North East, North West and North Central as well as the South East state of Ebonyi and the South South state of Bayelsa. But it showed high rates in states like Anambra, Enugu and Lagos. Nevertheless, across the countryin all states there was high unmet demand for modern family planning commodities.

At the Press Conference to mark World Contraception Day, the NGOs in the Partnership for Advocacy in Child and Family Health at Scale (PACFaH@Scale) project identified main causes of poor uptake of modern contraceptives in Nigeria as inconsistent and inadequate funding for family planning at national and state levels. The PACFaH@Scale NGOs also called out the government for weak management and health systems for managing FP commodities at both national and state levels. PACFaH@Scale also noted that while misinformation, cultural and religious beliefs are an impediment to demand, these are all factors that can be addressed by an adequately funded and well organized FP programme in which services are delivered by new providers under the Task Shifting and Task Sharing policy, where providers are well trained and stock-outs and commodity logistics challenges are solved by good management.

The PACFaH@Scale NGOs led by the Association for the Advancement of Family Planning (AAFP) in Nigeria called on the federal government to release the funds allocation for family planning commodities, logistics and training of providers budgeted in the 2020 budget. They also called on state governments to release funding for commodity, logistics, training and the management of family planning service delivery.

Lastly, PACFAH called on the government to honor its fiscal commitment by releasing funding to improve the regulatory environment for private providers and to strengthen the management of family planning service delivery at all levels of the public health system.

According to Guttmacher (2020), the only contraceptive useful in prevention of both pregnancy and transmission of sexually transmitted infections, including HIV is condoms. Use of contraception advances the human right of people to determine the number and spacing of their children. WHO (2020) said among the 1.9 billion women of reproductive age (15- 49 years), 270 million have an unmet need for contraception. In Nigeria, there remains a low uptake of contraception as evidenced by the high maternal and infant mortality rates.

THEORETICAL FRAMEWORK

Health Belief Model

Health Belief Model (HBM) was found suitable for this research study. It was a psychological health behavior model developed to explain and predict health related behaviours, with regards to uptake and usage of health services introduced to individuals in their first knowledge. It was developed in the 1950s by groups of social psychologists: Huclibaum, Rosenstock and Kegels, and remains one of the best known and most widely used theories in explaining health behavior in studies.
The model suggests that people's beliefs about health problems, perceived benefits of action, barriers to action and self-efficiency accounts for engagement (or lack of engagement) in their health promoting behavior. As stated in the model, a stimulus, or cues to action, must always be present in order to trigger the health promoting behavior.

A behavioural specific condition as highlighted in the model includes:

Perceived severity: Perceived severity refers to subjective assessment of the severity of a health problem and its potential consequences. It incorporates beliefs about the disease itself (e.g. whether it is life–threatening or may cause disability or pain as well as broader impacts of the disease on functioning in work and social roles. For instance, if a woman is not using modern contraceptive devices, she is likely to conceive without control, and this may predispose her to abortion, obstructed labour, hypertension in pregnancy, pre or post eclampsia, or any other maternal related disorders, she would be encouraged to adopt any contraceptive to control her fertility and conception.
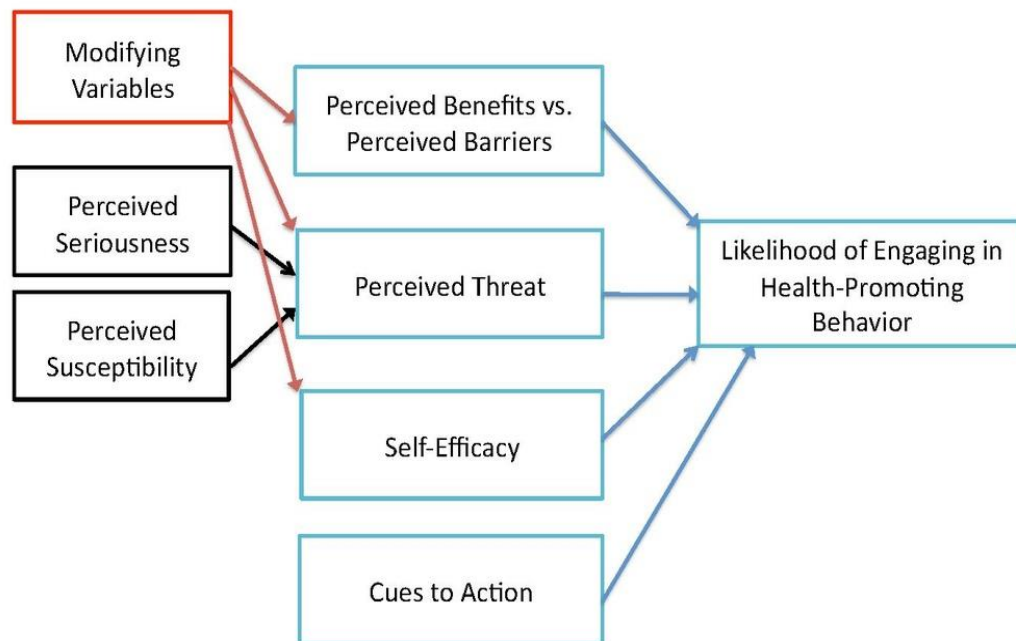
The Health Belief Model

Figure 1: Health Belief Model-Wikipedia en.wikipedia.org

Perceived susceptibility: Perceived susceptibility refers to subjective assessment of risk of developing a health problem. The health belief model predicts that individuals who perceive that they are susceptible to a particular health problem will engage in behaviours to reduce their risk of developing the health problem. The combination of perceived seriousness and perceived susceptibility is referred to as perceived threat. The health belief model predicts that higher perceived threat leads to higher likelihood of engagement in health promoting behaviours.

Perceived benefits: Health-related behaviours are also influenced by the perceived benefits of taking action. Perceived benefits refer to an individual's assessment of the value or efficacy of engaging in a health promoting behavior to decrease risk of disease. Conversely, if a woman she is susceptible to be pregnant whenever she ovulates, and this could likely make her have more children than she could not cater for; she would adopt and utilize modern contraceptives.

Perceived barriers: In health related behaviours, a function of perceived barriers refers to when an individual perceives a health condition as threatening and believes that a particular action will effectively reduce the threat. Barriers may prevent engagement in the health

promoting behavior. In other words, the perceived benefits must outweigh the perceived barriers in order for behavior change to occur. In this case, perceived barriers to taking action include the perceived inconvenience of contraceptives, heavy menstruation, cost of maintenance and stress of alertness to observe health status every day. In other words, since the benefit of heavy menstruation and inconveniences far outweighs having disproportional number of children one can cater for, the mother will be encouraged to utilize any form of modern contraceptive.

Modifying variables: These are individual characteristics including demographic, psychosocial and structural variables that can affect perception of health-related behaviours. Demographics variables include age, race, ethnicity, religious beliefs, economic and education background, among others.

Psychosocial variables: These include personality, social class, peer and reference group pressure, among others.

Structural variables: These include knowledge about a given disease and prior contact with the disease among other factors. The health belief model suggests that modifying variables affect health related behaviours indirectly by affecting perceived seriousness, susceptibility benefits and barriers.

Cues to action: the health belief model posits that cues, (e.g. heavy and painful menstruation) are an example of internal cues. In this case, inserting IUCD's and using condom causes discomfort and inconveniences during intercourse. External cues include events or information from others women who used modern contraceptives, the media, or health care providers promoting or discouraging use of one type of contraceptive and the other. Self-Efficacy: self-efficacy was added to the four component of the health belief model (i.e. perceived susceptibility seriousness, benefits and barriers) in 1988. Self-efficacy refers to an individual's perception of his or her competence to successfully perform a behavior. In this case, women of child bearing age considers how she will be going for exchange of IUCD every month, bearing its weight and inconveniences while walking with peers and colleagues in social places and public gatherings.

Application of the model to the study

The construct of health belief model is much applicable to the study as it explores health behaviours like promotion of mother and child health, prevention of illness and disorder to both mother and child, and compliance with recommended guidelines on use of modern contraceptives. The model focuses on two areas; individual understanding and individual belief.

An individual understanding of the benefits of modern contraceptive is poor. Obasohan, (2015), revealed that use of modern contraceptives is high among Christians and low among Muslims due to traditional and religious beliefs. In Nigeria, being a cultural and religious heterogeneous society, current use of contraceptives by women of childbearing age is found not to be a matter of independent effects of ethnicity, religiosity and other socio-demographic variables but also dependent on the effects of interactions between culture, ethnicity and religion. The likely reason for this is the cultural belief of most of these women that God has

placed Children in the womb of a woman and until they are given birth to, nobody has right to interrupt its growth. Again, some culture permits polygamy and as such most of these women believed that they can gain much of their husband's attention when they are often pregnant for him.

Conversely, Jones, Mosher and Daniels (2012) revealed that low autonomy of Nigerian women during reproductive years is responsible for non-utilization of modern contraceptive devices, and this adversely bloats population size of the country. When women of reproductive age are educated and exposed, they don't live their lives to the context of family and societal detection. Rather, they live their life to be comfortable, free and sociable to other men apart from only their husband. Hence sense of autonomy will make a woman seek modern contraceptive to have few children and be at liberty to attend other social engagements unhindered by baby's demands.

Statement of Problem

Despite the wide range of effective contraceptive options available to women in developed countries, record of unwanted pregnancies still continues to occur in large numbers, and rates of sexually transmitted infections remain high. Globally, it is estimated that 350,000 women die and 50 million suffer illness and disabilities of complications of pregnancy and childbirth every year(Lee& Jezewski, 2007). Again, in global mortality list, Nigeria is listed among the top six countries that contribute to over 50% maternal mortality rate (Yihunie, Ayalu, Habtamu, Susan & Kebede, 2013).

Demographic data of women who seek health care from Community Health Clinic of UCTH Calabar hails from Efik, Ibibio, Hausa, Yoruba, Igbo and other minority tribes. They are culturally, religiously and ethnically influenced to adhere to traditional and customary practice than advents of orthodox medicine. For that reason, they regard modern contraceptive as immoral and anti-cultural approach of making women rise against their husband to give birth to few children. Some feels pregnancy is from God, whoever alters God setting in life is ungodly. For Christians, the only officially accepted form of family planning method is abstinence, while other chemical and barrier methods are unnatural (LoPresti, 2005). Some women in the clinic complaint their reason for nonuse is access to the commodity while others said they were discouraged by previous users of their side effects.

Currently there is steady rise in population of people in Cross River State at 3.738 million as a result of increase child birth (Okonkwo, Ameh, Otu & Okpara, 2017). In the same vein, sexually infectious disease is over 37 million cases with HIV/AIDS taking the ride (Ochako, Mbondo, Aloo, Kaimenyi, Thompson, Temmerman & Kays, 2015). In UCTH, maternal and infant mortality rate is at increase with cases recorded every day in both Post-natal, Gyneacology and Obstetric theatres. For most women who would not keep pregnancy, abortion is elected either as a therapy or criminally. Within the time of study 15 cases were conducted in general theatre with 8 complications (UCTH/GT/A/2022). Many sexually transmitted infections (STI) are also admitted and treated at out-patient in UCTH all owing to nonuse of modern contraceptive by women.

The Government of Cross River State has made impressive effort at establishing more than 405 Clinics and Primary Health facilities across the state with different modern contraceptive methods but most women are not patronizing them. On survey, most of these devices are very cheap and affordable rate but they attribute their nonuse to one and the other excuse. Pregnancy test and stripes are also offered at cheap rate but unutilized, posing women to be pregnant at every ovulation.

It is at this juncture that the researcher is poised to conduct this study to determine knowledge, preference and practice of women of childbearing age towards utilization of modern contraceptives in UCTH, in Cross River State.

Objective of the study

The objective of the study is to determine knowledge and utilization of modern contraceptives among women of childbearing age in UCTH.

Specific objective are as follows:

1. To determine level of knowledge of childbearing women towards utilization of modern contraceptives in UCTH
2. To ascertain the level of utilization of modern contraceptives by women of childbearing age in UCTH
3. Find out the demographic determinants of utilization of modern contraceptives among women of childbearing age in UCTH, Calabar

Research questions

The following research questions were raised to guide the study:

1. What is the level of knowledge of childbearing women towards utilization of modern contraceptives in UCTH?
2. What is the level of utilization of modern contraceptives by women of childbearing age in UCTH?
3. What are the demographic determinants of utilization of modern contraceptives among women of childbearing age in UCTH, Calabar?

Research Hypotheses

This research hypothesis was raised in a null form to guide the study:

1. There is no significant relationship between knowledge and utilization of modern contraceptive among childbearing women in UCTH

Significance of the study

The study was relevance for advice and counseling of young mothers during antenatal health talk in Community Health Clinic at UCTH. Healthcare workers in the clinic were furnished of with findings to teach childbearing mothers with available type of contraceptives, chemical composition and direction of use.

Young mothers equally gain from the knowledge to gain autonomy of deciding when to be pregnant by withholding utilization and commencing use when she does not want to be pregnant. Women at this time are not living under pretext of the husband, family and communal beliefs but elects pregnancy based on her body physiological status and functioning.

Findings of the study forms research bank for use in Community Clinic of UCTH in which future researchers will utilize for reference and consultation.

Delimitation/Scope of the study

The scope of the study was delimited to University of Calabar Teaching Hospital and within the four variables of the study viz: knowledge, prevalence, preferred and practice of utilization of modern contraceptives among women of childbearing age.

Limitation of study

The researcher encountered series of hindrance that would have prevented her from conducting this study. Some of these were:

1. Paucity of fund due to lack of employment and support
2. Poor attitude of respondents to instrument
3. Lack of documentation of cases and clients' report by caregivers in the unit
4. Ill state of the researcher at the terminal aspect of study.

By God's special grace after persistent perseverance, she was able to course through all the rigorous stages and complete the study.

Definition of study

Knowledge: The fact of being aware of something or a situation of things. It also has much to do with being informed and made to know

Prevalence: A situation of being in available or in existence for use

Prefer: The act of choosing one thing in place of the other. It also relates to liking one item, person or situation rather than another

Attitude: This is the state of mind of an individual. It also means ways of carrying out activities or procedure, or ways or conducting self.

Practice: This is performance or carrying out activity in a better or improved way

Contraceptive: This is the act of preventing conception as a result of sexual intercourse

Childbearing age: These are age range which a woman can be pregnant due to maturity, ovulation and fertilization.

LITERATURE REVIEW

Conceptual Review

Modern contraceptives are current accepted approaches of preventing conception as a result of sexual intercourse. It may be natural through abstinence having studied individual's ovulation cycle or artificial through use of barriers or hormonal products.

Modern techniques of contraception include sterilization for male and female; intrauterine devices and systems; subdermal implants; oral contraceptives; condoms for male and female; injectable; emergency contraceptive pills; patches; diaphragms and cervical caps and spermicidal agents like gels, foams, creams and suppositories(Hubacher & Trussell, 2015). According to WHO (2021), these lists of contraceptive are regarded recent: Cap, Combined pill, Condoms, Contraceptive implant, Contraceptive injection, Contraceptive patch, Diaphragm and Female condoms.

According to Hidru, Dingeta, Menigiste, Etsay, Gebremedhin, Berwo and Asef, (2020), the use of contraceptives and its promotion has tremendous benefits of reducing poverty, maternal, and child mortality. Use of contraceptive refers to intention planning of when to have children through the use of birth control measures. It means the use of modern contraceptives or other steps that allows individuals and couples to anticipate and have their desired number of children as they could cater for, as well as to achieve healthy spacing and timing of their birth. Study by Endriyas,Eshete, Mekonnen, Misganaw, Shiferaw & Ayele (2017) reveals over 300,000 women die as a result of maternal or pregnancy-related complications each year. And this could have been best prevented with use of modern contraceptives.

Inward study of modern contraceptives has the following description and benefits: Cap or contraceptive diaphragm is a circular dome made of thin, soft silicone that can be inserted into the vagina before sex. It covers the cervix to prevent sperm from entering into the womb (uterus) to fertilize an egg.When used correctly with spermicide, a diaphragm or cap has 92-96% effectiveness against pregnancy. It is less effective when it's damaged torn or has holes, when it's not the right size for the client, used without spermicide and when removed too soon less than 6 hours after the last sex. The disadvantage is that the woman must remember using it correctly. It lacks protection against STIs, requires longer time to be worn, predispose women to cystitis and can cause irritation to both client and partner thus interrupting coitus.

According to Mayo Clinic, (2020), combined pillare oral contraceptives that contains estrogen and progestin. It keeps the ovaries from releasing egg. They also cause changes of the cervical mucus and the lining of the uterus (endometrium) to hinder sperm from swimming to the egg. Use of pills reduces the number of periods a client has each year. It is easily reversible to normal immediately client stops its usage. Other advantage it has for

women are decreased risk of ovarian and endometrial cancers, ectopic pregnancy, ovarian cysts and benign breast disease. It reduces menstrual cramps (dysmenorrheal), androgen production caused by polycystic ovary syndrome, reduces heavy menstrual bleeding due to uterine fibroids and other causes, as well as a reduction in related iron iron-deficiency anemia, relieves from premenstrual syndrome (PMS), produces shorter, lighter and more-predictable periods or, for some types of combination pills, fewer periods per year and has better control of monthly cycle with reduction in hot flashes for women approaching menopause (perimenopause). Although taking combination birth control pills during early pregnancy doesn't increase the risk of birth defects, it's best to stop them as soon as a woman suspects she's pregnancy. Pills can cause the following side effects: breakthrough bleeding or spotting — more common with continuous-dosing or extended-cycle pills, breast tenderness, high blood pressure, headaches, nausea and bloating.

According to NHS (2022), condoms are "barrier" method of contraception. They are made of very thin latex (rubber), polyurethane or polyisoprene and are designed to prevent pregnancy by stopping sperm from meeting an egg. They can also protect against STIs if used correctly during vaginalsex. There are 2 types of condoms: internal and external condoms. While external condoms are worn on the penis – sometimes called male condoms, internal or female condoms are worn inside vagina called female condom. It is 98% effective and is the cheapest form of contraceptive. It's only useful for sex without requiring advance preparation and is suitable for unplanned sex. In most cases, there are no medical side effects from using condoms. They are easy to get hold of and come in variety of shapes, sizes and flavors. The disadvantage is that some couples find it interrupting during sex. They can easily get turn during intercourse and most partners complain of its irritation causing them to react.

Contraceptive implant or Nexplanon is a small flexible plastic rod that is placed under the skin in the upper arm of a woman by service provider (NSH, 2021). It releases progestogen hormone into the bloodstream to prevent pregnancy for a period of 3 years. It is more than 99% effective useful for women who can't use contraception that contains oestrogen. It is also useful for women with difficulty of remembering to take pill at the same time every day. When client start observing adverse side effect, it can be removed and natural fertility returns immediately. When introduced, client may experience some bruising, tenderness around the implant, irregular period, sometimes lighter, heavier or longer. Its common side effect is amenorrhoea, which is not harmful. It has no protection against STIs hence can be used alongside with condom. NSH (2021) reported that it prevents release of egg for ovulation and thickens cervical mucus to prevent sperm from navigating into the womb for fertilization. Its advantages over other contraceptives are that it lasts for 3 years,it doesn't interrupt sex, it's an option for oestrogen-based contraception, such as the combined contraceptive pill, contraceptive patch or vaginal ring, it's safe to use while you're breastfeeding, fertility will return to normal as soon as the implant is taken out and it reduces dysmenorrhoea or haemorrhagia. User lodges these complaints as disadvantages: headache, nausea, mood swing and breast engorgement. Others complain of amenorrhea, irregular menses and acne.

The contraceptive injection prevents pregnancy by injecting a synthetic version of the hormone progestogen, called Depot medroxyprogesterone acetate, or DMPA. The injection is

also called Depo. Depo prevents the body from producing its own hormones and releasing eggs from the ovaries just like the pills. The injection thickens the fluid at the entrance to the uterus (womb), which stops sperm from entering. It also thins the lining of the uterus, making it difficult for a fertilized egg to attach and develop. The injection is given intramuscularly into the buttock or the upper arm, and over the next 12 weeks the DMPA is slowly released into the bloodstream. To prevent pregnancy, the injection must be given every 12 weeks or 3 months. The injection is given during the first 5 days of the menstrual cycle, so it can start working straight away. If a woman has the injection at some other time in the cycle, it can take up to 7 days before it starts working.

Injectable contraceptive is available in two forms: Depo-Provera and Depo-Ralovera. Its advantages are broad ranging from high effectiveness, useful for women who react to oestrogen contents, gives allowance of 3 months before reload, safer for many women even during breastfeeding, prevents menstrual flow, corrects heavy flow and painful menstruation, reduces risk of ovarian and uterine cancer, prevents pelvic infection and cannot be defected by actions of other drugs. Conversely, injectable contraceptive is surrounded with the following disadvantages: alteration of menstrual pattern in frequency, duration or cessation; late return of ovulation when client stopped using it for about 18 months; complaints of weight gain, moodiness; reduced libido; headache and acne; bone thinning for long users; and possibility of forgetting appointment date (The Royal Women Hospital, 2021)

Among the known modern contraceptives, contraceptive patch also called birth control patch is the last. According to Burkman, (2021), it prevents pregnancy by releasing hormones into the bloodstream preventing ovaries from releasing an egg (ovulation). The birth control patch also thickens cervical mucus to hinder sperm from reaching the egg. It is a type of contraception that contains the hormones estrogen and progestin and has to be worn by the client to avoid becoming pregnant. It is taken once a week for three weeks, on the skin, so that the patch is worn for a total of 21 days. By the fourth week, the patch is removed for menstrual bleeding to occur. The client has to seek prescription from Caregivers to use contraceptive patch. Nevertheless, it does not protect against sexually transmitted infections (STIs) and HIV/AIDS like others (Xulane, 2021).

It has the following advantages: The birth control patch is used to prevent pregnancy. The birth control patch has some advantages over other types of contraceptives: it removes the need to interrupt sex to have the contraception; it doesn't require the husband's consent; it doesn't require remembering to take the drug nor daily attention like pills; it provides steady dose of hormones; it's easier to use if client has problem of swallowing pills; and it can be dislodged at any time, allowing for a quick return to fertility. Despite above advantages, it has these numerous disadvantages: risky for clients above 35 years and for smokers; risky with history of cardio-pulmonary attack, liver, uterine and breast cancer; risky for clients weighing more than 90kg; clients with unexplained vaginal bleeding and who is sensitive to any form of contraceptives. I also pose the following side effects: increase in risk of blood-clotting factors, heart attack, stroke, liver cancer, gallbladder disease and high blood pressure, breakthrough bleeding or spotting, skin irritation, breast tenderness or pain, menstrual pain,

headaches, Nausea or vomiting, abdominal pain, mood swings, dizziness, acne, diarrhea, muscle spasms, vaginal infections and discharge, fatigue and fluid retention.

Empirical review

Knowledge of childbearing women

Rural women are known to be ignorant and naïve on contraceptive use and their different types. Juma, Mutombo and Mukiira (2018) in their study rural women at Western Kenya discovered that rural women had low perception regarding modern contraceptive services offered by Community Health Workers. In empirical study conducted by Aliyu, Dahiru, Oyefabi and Ladan (2015), the study aimed at determining knowledge, determinants and use of modern contraceptives among married women in Sabon Gari, Zaria-Northern Nigeria. It was a cross sectional descriptive and health facility-based study. Respondents were selected consecutively from the out-patient clinic register of Comprehensive Health Centre and a structured questionnaire was used to collect data. Only three hundred and nine (309) questionnaires were finally analyzed out of the 350 questionnaires administered. Mean age of respondents was 32.8+9.6 years. Majority (78%) were Muslim, married and in monogamous union (72.2%). Knowledge of modern contraceptive was found to be almost universal 97.7% even though knowledge of 2 or more methods was 55.3%.

In another study carried out by Agbo, Eguvbe, Alabra and Alagoa (2020) on knowledge of modern contraceptives and its uptake among female students of Federal University Otueke, Bayelsa State, a descriptive cross-sectional design was used to elicit information about their knowledge of modern forms of contraceptives methods and its uptake. A structured interviewer administered questionnaire was constructed to obtain required information for the study from a total of 424 students. The study showed that most respondents had good knowledge of contraceptives (97.4 %). The awareness of modern contraceptive was 96.7%. The study also revealed that age influence the awareness of contraceptives ($x2=11.8$;df=3; $p<0.05$). Most of the respondents had used oral contraceptive pills 146 (34.4%); followed by those that had used condom 138 (32.5%).

Nsubuga, Sekandi, Sempeera and Makumbi (2015) also conducted their study on contraceptive Use, knowledge, attitude, perceptions and sexual behaviour among female University students in Uganda. A survey study design was to conduct the study at Makerere University main campus in Kampala, Uganda during April 2014. With a team of well-trained and experienced research assistants interviewed female undergraduate students provided data on socio-demographic characteristics, knowledge, perceptions and attitudes and use of contraceptives, as well as other sexual and reproductive health practices. Users of any contraceptive method in the past 12 months were coded as 1, and none users as 0. The prevalence of contraceptive use was determined as the number of users divided by all female participants. Prevalence ratios (PRs) with their corresponding 95 % confidence intervals were used as measures of association between contraceptive use and associated factors. The PRs were obtained via a modified Poisson regression model using a generalized linear model with Poisson as family and a log link without an offset but including robust standard errors. All

analyses were conducted with Stata version 13. Findings revealed that Knowledge of any contraceptives was almost universal (99.6 %) but only 22.1 % knew about female condoms. Perceived acceptability of contraceptive use at the university (93 %) or being beneficial to male partners too (97.8 %) were high. Nearly 70 % had ever engaged in sexual intercourse and 62.1 % reported sexual intercourse in the past 12 months. Overall, 46.6 % reported current contraceptive use, with male condoms (34.5 %) being the commonest methods. Factors associated with higher contraceptive use were being in year 2, consensual union or perception that contraceptives are for females only. However, being evangelical/SDA or perception that contraceptive use is wrong was associated with lower contraceptive use. Overall, 9 % reported ever being pregnant, 2 % were pregnant at the time of the survey and a third (33.8 %) knew of a pregnant friend. About 40 % of ever pregnant respondents reported ever trying to terminate the pregnancy. The study concluded that knowledge, perceived acceptability and benefits of contraceptive use were nearly universal, but contraceptive use was suboptimal in the setting.

According to Thummalachetty, Mathur, Mullinax, DeCosta, Nakyanjo, Lutalo, Brahmbhatt and Santelli (2017) in a study on Contraceptive Knowledge, perceptions, and Concerns among Men in Uganda, in-depth interviews on 41 respondents were used in a qualitative study. Result revealed that respondents had knowledge of contraceptives based on partner's experience of side effects, partner's knowledge from health providers and mass media campaigns, and partner's knowledge from peer groups. Men were less likely to report contraceptive knowledge from health care providers, mass media campaigns, or peers. Men's concerns about various contraceptive methods were broadly associated with failure of the method to work properly, adverse health effects on women, and severe adverse health effects on children. Own or partner's human immunodeficiency virus (HIV) status did not impact on contraceptive knowledge.

To achieve target 3.7 of the Sustainable Development Goal (SDG) 3 which emphasizes that by 2030 the world should ensure universal access to sexual and reproductive healthcare services, utilization of modern contraceptive is key (WHO, 2018). According to Ahinkorah, Budu, Aboagye, Agbaglo, Arthur-Holmes, Adu, Archer, Aderoju & Seidu (2021), overall prevalence of modern contraceptive use among women with no fertility intention in the 29 sub-Saharan African countries considered in this study was 29.6%. In terms of country-based analysis, Zimbabwe (62.2%) had the highest prevalence of modern contraceptive use, Nigeria (18.93) while Chad (7.7%) had the lowest prevalence. They found that overall prevalence of modern contraceptive use among the selected women was 29.6%. This low prevalence suggests that use of modern contraceptives for fertility prevention is still a problem among women in Sub-Sahara Area.

Contraceptive prevalence in Nigeria is known to be one of the lowest in the world. The Nigeria Demographic and health Survey (NDHS) 2008 recorded a prevalence of 13%, and that 2013 NDHS recorded a marginal rise to 15% (NPC & ICF, 2014). The NDHS 2013 reports that, although 85% of Nigerian women and 95% of Nigerian men report having knowledge of a contraceptive method, only 15% of currently married women use a contraceptive method, with an unmet need for family planning of 16% among married

women (NPC & ICF, 2014).

A related research in Ilorin, Nigeria found that, although all 600 respondents were aware of contraceptives, only 25.4% had used one form of contraceptive method or another (Abiodun & Balogun, 2009). This was lower than the 52.5% respondents who had used one form of contraception or another in Uyo, Nigeria (Umoh & Abah, 2011). The observed difference may be attributed to the fact that the Uyo study utilized hospital clients, (ANC attendees) whereas the Ilorin study was conducted among students. In a study on family planning behaviors and decision-making among couples in Cross River State, Nigeria, it was found that spousal communication and male involvement in family planning increases the likelihood of fertility control (Undelikwo, Osonwa, Ushie & Osnwa, 2013). A similar study found that 61.3% of respondents in a rural community in Cross River State were currently using one form of family planning method or another (Ushie, Otu & Undelikwo, 2014). The Cross River State Government's Strategic Health Development Plan (2010–2015) indicates that the contraceptive prevalence in the state is 16% (CRSMOH, 2010).

In a study conducted by Tessema, Teshale, Tesema, Yeshaw and Worku (2021) to determine pooled prevalence and determinants of modern contraceptive utilization in East African region, estimation was done by STATA version 14. Intra-class Correlation Coefficient (ICC), Median Odds Ratio (MOR), Proportional Change in Variance (PCV), and deviance were used for model fitness and comparison. The multilevel logistic regression model was fitted to identify determinants of modern contraceptive use in the region. Adjusted Odds Ratio with its 95% Confidence Interval was presented, and variables with a p-value $\leq$ of 0.05 were declared significant determinants of modern contraceptive utilization. Result revealed that about 20.68% (95%CI: -20.46., 20.91)of women used modern contraceptive, ranging from 9.08% in Mozambique to 61.49% in Comoros. With the use of multilevel logistic regression model; maternal age group rages from 25–34 (AOR: 0.79, 95%CI: 0.76, 0.82) and 35–49 (AOR:0.49, 95%CI:0.46,0.51). Being married (AOR:0.85, 95%CI:0.82,0.88), mothers with primary education (AOR:1.48, 95%CI:1.43,1.54) and secondary and above education level (AOR:1.60, 95%CI:1.52,1.69), husbands with primary education (AOR:2.43, 95%CI:2.35,2.51) and secondary and above education level (AOR:2.92, 95%CI:2.76,3.05). The mothers who had occupation (AOR:2.11, 95%CI:1.23,1.33), mothers from households with middle wealth index (AOR:1.23, 95%CI:1.19,1.28) and rich wealth index (AOR:1.28, 95%CI:1.23,1.33) were found to be significant determinants of modern contraceptive use.

It was concluded that modern contraceptive utilization in the 12 East Africa countries was low compared to SDG target 2030 (75%). That governmental and non-governmental organization should scale up their public health programs to the poor and marginalized communities to scale up modern contraceptive utilization uptake in the region. In addition, reforming the health system and reproductive health education through mass media to create awareness of modern contraceptive use benefits are effective strategies to improve modern contraceptive use among East Africa women.

According to Apanga, Kumbeni, Ayamga, Ulanja and Akparibo (2020) in a study about prevalence and factors associated with modern contraceptive use among women of reproductive age, cross sectional research design was used to conduct the study and data was

collected with Multiple Indicator Cluster Surveys (MICSs) from 20 African countries between 2013 to 2018. Population covered 1,177,459 women from 15-19 years of age. With the use of Multivariable logistic regression factors associated with modern CP was identified, while controlling simultaneously for independent variables, and accounting for clustering, stratification and sample weights from the complex sampling design. Random effects meta-analysis was used to pool adjusted estimates across the 20 countries. Result revealed overall prevalence of modern CP use at 26% and ranged from 6% in Guinea to 62% in Zimbabwe. Overall, injectable (32%) was the most preferred method of CP, followed by oral pill (27%) and implants (16%). Women were more likely to use a modern CP if they: had a primary (adjusted prevalence odds ratios (aPORs): 1.68, 95% CI: 1.47 to 1.91)) or secondary/higher education (aPOR: 2.16, 95% CI: 1.80 to 2.59) compared with women with no formal education; had no delivery in the last 2 years (aPOR: 3.89, 95% CI: 2.76 to 5.47) compared with women who delivered in the last 2 years; were aged 25–34 years (aPOR: 1.33, 95% CI: 1.20 to 1.47) compared with women aged 15–24 years; were of middle-income status (aPOR: 1.25, 95% CI: 1.11 to 1.39) or rich (aPOR: 1.53, 95% CI: 1.27 to 1.84) compared with poor women and had two or more antenatal care visits compared with women without a visit. Perceived domestic violence was not associated with modern CP use (aPOR: 0.98, 95% CI: 0.92 to 1.05).

According to Martin, Msuya, Kapologwe, Damian, John and Mahande, (2019), Modern contraceptive use among women of reproductive age(15 - 49 years) is a public health priority in Tanzania. The national prevalence remains unacceptably low as 32%. Shinyanga region is one among the regions with lowest contraceptive prevalence rate (21%) and high unmet need for family planning (23%). In their study aimed at assessing the prevalence and determinants of modern contraceptive use among women of reproductive age. Methods: A community-based cross-sectional study was conducted in Kishapu district of Shinyanga region: A total of 602 women aged 15 - 49 years were interviewed using a standardized questionnaire. Data were analyzed using SPSS version 20.0. Odds ratios with 95% confidence intervals for factors associated with use of modern contraceptives were estimated in multivariable logistic regression models. Results: The prevalence of modern contraceptive use was 42.7%. Being employed (OR 2.42, 95% CI: 1.13-5.18), formal educational level (OR 2.45, 95% CI: 1.38-4.35), couple's communication (OR 2.44, 95% CI: 1.74 - 3.42) and availability of modern contraceptives (OR 1.94, 95% CI: 1.17-3.20) were significantly associated with current use of modern contraceptives. Husband disapproval was frequently reported as barrier for modern contraceptives in the study area. Conclusions: Numerous factors were associated with use of modern contraceptives. Husband disapproval was frequently reported as barrier for contraceptive use. Strategies to promote the importance of modern contraceptives use in the study area are warranted. District health office and concerned stakeholders should encourage male involvement for family planning

Access to universal contraceptive is one key strategies of achieving sustainable development in Nigeria. Yet uptake is low due to individual and family preference. In a study carried out by Idowu, Ukandu, Mattu, Olawuyi, Abiodun, Adegboye, Chibu-Jonah, Siakpere, Ishola, Adeyeye and Alabi(2020) aimed at assessing contraceptive use and its preference among reproductive aged women in Ejigbo, Osun State, Nigeria; a quantitative research method was

used to study 405 participants from multi-staged sampling technique. Data were collected using pretested semi-structured, interviewer-administered questionnaire. Chi-Square test and binary logistic regression analysis were used for inferential statistics. Findings revealed age respondents of 28±6. The majorities (92.8%) of the respondents were aware of modern contraceptives, 68.9% of them possessed good knowledge but only 53% of them demonstrated favorable contraceptive attitude. Less than half (33.0%) of those who had heard about contraception were current users of modern methods. Injectables (45.0%) and male condoms (30.0%) were the most prevalent contraceptive methods among the respondents. The main preference of contraceptive uptake was respondents' educational status (AOR=0.525, 95%CI=0.284-0.972), contraceptive knowledge (OR=0.512, 95%CI=1.242-1.968) and attitude (OR=0.512, 95%CI=1.2421.968). Fear of perceived side effects (45.2%), low pregnancy risk perception (35.7%) and spousal refusal (12.5%) were the other main reasons for non-contraceptive use among non-users.

In another survey by Tsehaye, Mengistu, Birhanu and Berhe (2013) to assess of preference and its determinant factors toward modern contraceptive methods among women of reproductive age group in Shire, Indaselassie Town; community based cross-sectional study design was employed to 367 sampled women. Stratified sampling technique was employed to select the study subjects. Data was collected using structured questionnaire. Findings revealed that the most commonly preferred modern contraceptive method was injectable contraceptive 202 (55%), the second 61 (16.6%) was oral contraceptives, and the third 47 (12.8%) was Norplant. Condom 31 (8.4%), IUD 14 (3.8%), female sterilization 7 (1.9%), and others were less commonly preferred methods. It was concluded that women preferences of modern contraceptive methods increased after they had higher number of children and less desire to limit family size.

In addition, Kebede, Abaya, Merdassa, Elias and Bekuma, (2019) observed in their study to assess the preference for modern contraceptive and associated factors among currently married women of the reproductive age group in rural Kebeles of Nunu Kumba District, in 2015. That, the total preference for modern methods of contraceptive was 450 (77.1%) of which 325 (55.7%) of them were current user and 125 (21.4%) of them had unmet need for modern contraceptive methods. Being in the younger age group (15–24 and 25–34 years [AOR = 0.196; 95% CI: 0.055, 0.692] and [AOR = 0.179, 95% CI: 0.043, 0.745] respectively, husband having no intention for more children [AOR = 4.124, 95% CI: 1.891, 8.996], number of children alive [AOR = 2.617, 95% CI: 1.056, 6.486], and couples ever not discussed on modern contraceptives [AOR = 0.340, 95% CI: 0.187, 0.619] were factors associated with preference for modern methods of contraception. It was therefore concluded that preference for modern methods of contraceptive was high in the study area except for long-acting and permanent methods with high unmet need for spacing than for limiting. Therefore, any program aimed at promoting utilization of modern contraceptive at the district level should look for ways and means of increasing demand for long-acting and permanent contraceptive methods and encouraging husband to be involved in its utilization.

One of the key determinants of contraceptive use in Nigeria is female education (NPC &

ORC (2004). In a study in Osun State, Nigeria, it was found that respondents' educational status, occupation of the partner, communication with the spouse regarding contraceptive use, and approval of a contraceptive method were significant determinants of use of at least one modern contraceptive method (Oyedokun (2007). Educated women were more likely to understand and appreciate why they should have fewer children for whom they can provide better education than women who were uneducated. The education of the spouse was also likely to increase the probability of contraceptive use by a woman(Oyedokun, 2007).

According to Yimer and Modiba (2019) in their study on modern contraceptive methods knowledge and practice among blind and deaf women in Ethiopia, the study revealed that almost half of the respondents ever used modern contraceptive method. From the findings short-acting methods were the common methods used by ever users whereas implants were the most commonly used (51%) contraceptive method among current users. The share of IUCD was only 5.0%, short acting methods was 44.2% (Pills, 11.8%; Injectable, 15.7%, and male condom, 16.7%) among current users.

According to Gajida, Takai, Harunaand Bako (2019) in their study titled knowledge, attitude and practice of modern contraception among women of reproductive age in Urban Area of Kano, North-Western Nigeria. Finding showed that among the respondents, a significant proportion of them (60.7%) had good practice of modern contraception. In the study, only 38.8% of respondents had not used any method of modern contraception. The practice of modern contraception was relatively higher among respondents above 30 years, with a statistically significant association ($\chi^2 = 32.1$, *P*< 0.05) between respondents' age and the practice of modern contraception. The reasons given by respondents below 30 years were mainly the desire to have more children and also fear of side effects. Among the respondents who used a modern contraceptive method, 69.4% did not experience any side effects, 28.9% experienced abnormal menstrual bleeding, and 1.7% had other side effects like weight gain and headaches. When asked about side effects, most respondents (72%) confirmed that they would seek medical care if they experienced some, 24% said they would stop the method and never use any of them again, whereas 3.8% of the respondents said they would endure side effects. Respondents in monogamous settings had good practice of modern contraception with a statistically significant association ($\chi^2 = 13.0$, *P*< 0.05).

Utilization of modern contraceptives

Awareness is one thing but to utilize contraceptive is a different thing due to several associative factors that might act as limitation. According to Megabiaw (2012), he opined that assessing levels of contraceptive awareness along with its use helps in identification of likely areas of intervention. In his empirical study on awareness and utilization of modern contraceptives among street women in North-West Ethiopia using cross-sectional study on 204 Street Women, data were collected with the use of pre-test and structured questionnaire constructed in their local dialect. Result showed that nearly 50% of respondents were recent users of modern contraceptives. Within this number, three quarter (74.3%) were using injectable pills while 10% were using long acting (permanent) methods. It was concluded that

use of current contraceptives among street women was satisfactory with regards to their ways of life and living condition. In another study by Guta, Amsalu, Weldamanuel, Sema, Abera, Demissie and Belay (2021), the survey aimed at studying utilization of modern contraceptives and the associated limiting factors among street women in Dire Dawa, Eastern Ethiopia. They used a community-based cross-sectional study with both quantitative and qualitative research design to study a population of 615 women of childbearing age. Result disclosed that 50.3% of target group were currently using modern contraceptive devices. Their findings also revealed that the main associated factors responsible for nonuse were fear of side effects, misconceptions, intention of having more children after 2 years and experience of rape by hooligans. It was concluded that use of current contraceptives were low along with other hindering factors as responsible for nonuse.

Conversely, in a study conducted by Solanke (2017) to determine factors influencing contraceptive use and non-use among women of advanced reproductive age in Nigeria, the researcher used experimental research design was used to study 14,450 women selected with weighted sample size. Findings revealed that majority of the women were not using any contraceptive method due to their risk on multiparous women. It was concluded that socio-demographic background contributes greatly to non-use of modern contraceptive methods.

Summary of literature review

This chapter reviewed literatures on knowledge, prevalent, preference and practice of women of childbearing age towards utilization of modern contraceptives in UCTH, Calabar, Cross River State. All the authors whose material were used accepted that for Nigeria to have control of increase in her population and to be able to attain the aims of Sustainable Developmental Goals (MDGs) for 2030, optimal utilization of modern contraceptive has to be practiced by women of childbearing age (Hidru, et. al., 2020). They all agreed that use of contraceptive is deliberate planning of when to have children and how many number of children a family can comfortably take care of in other to aid development avoid poverty. They accepted that modern contraceptive includes Cap, Combined pill, Condoms, Contraceptive implant, Contraceptive injection, Contraceptive patch, Diaphragm and Female condoms (WHO, 2021).

In empirical review, all referenced author supported that women's knowledge on the types of modern contraceptive was good but usage was influenced by husband and family/customary beliefs (Nsubuga, et. al., 2015). According to Tsehaye, et. al., 2013, most preferred methods of contraceptives are pills and injectables. This is elected by women for convenience and reliability. In the same vein Ahinkorah, et. al., 2021 confirmed with others that Zimbabwe (62.2%) had the highest prevalence of modern contraceptive use, Nigeria (18.93) while Chad (7.7%) had the lowest prevalence. Finally, is was observed that the main preference of contraceptive use were educational status, knowledge of effectiveness of each contraceptive, age of woman, family background and perceived fear of the side effect (Gajida, et. al., 2019). This constitutes the bio-metrics of women of childbearing age.

Considering the study in UCTH, there had been no previous research work on the subject matter and caregivers has less interest in documentation of observed data from their clients. It is on this premise that the researcher is poised to conduct this study to fill the research gab.

RESEARCH METHODOLOGY

Research design

Descriptive survey design was used to conduct this study. This design assisted in achieving the desired objectives of the study. The survey design solicits response from respondents who has the desire to offer information through asking of questions (Otu, 2018). The design helped the researcher to ask questions, get answers and draw generalization based on the respondents' data collected. Survey research was chosen for this work because it is an efficient means of collecting data from a specific number of respondents representing the entire population.

Area of study

This study was carried out in University of Calabar Teaching Hospital, (UCTH), Calabar. UCTH, Calabar started functioning at the permanent site from 2001 by Dr. Roland Ndoma Egba who was the Chief Medical Director (CMD) at that time. It is bounded by the University of Calabar, Calabar; Eastern High way and Satellite Town all in Calabar Municipality. With a total of seventeen wards and staff strength of over 1,000; it is located on the Northern part of the University of Calabar along UNICAL Hotel road. University of Calabar Teaching Hospital has a good atmospheric climate which is the wet and dry seasons.

The University of Calabar Teaching Hospital is a Federal Government Institution established in 1889 but received its status as a tertiary institution of health care services in 1979. As a tertiary institution, UCTH takes care of medical and surgical cases. It also undertakes various forms of health investigations for diagnostic purposes. Her patient's population includes personal calls or decisions, admitted cases and referred cases from primary and secondary health institutions for expert management.

UCTH Calabar serves as a training institution for medical laboratory scientists and other members of the medical team as well as nurses, doctors etc. The hospital is chosen for this study because as a tertiary hospital, many occupational health diseases are managed. The hospital has a working capacity of over 1000 staff comprising 290 medical laboratory scientists.

Considering Calabar Municipality which it is located, the major occupation of Calabar people is farming and business (trading). There are some public/civil servants and students and people of other vocational trades. In terms of religion, the people of Calabar are predominantly Christians, though some Muslims and traditionalists can still be found in the area.

The major languages spoken by the people of Calabar are Qua, Efik and English. Communities in Calabar are headed by Chiefs (Obong/Ntoe) who reports to the Paramount Ruler. The Genera Head of the traditional council is the Obong of Calabar.

Population of study

Population of study comprised of women of childbearing age who came for antenatal clinic registration. As at the time of study, there were a total of two hundred and forty-eight (248) women of childbearing age (UCTH/CC Register/Vol. 3/2022) who undergo Community Clinic for antenatal registration, acquisition of modern contraceptive device and immunization for 3 months from January to March 2022.

Sampling techniques

Accidental sampling technique also known as convenience sampling technique was used for selecting sample for the study. This involved choosing the nearest respondent at reach and continuing the process until required number is obtained. It can also be acquired by using the available number of respondents from the target population who are available and accessible at the time of study (Asim, Idaka & Eni, 2017).

Sample

The sample of this study consists of one hundred and two (102) respondents met at 3 different occasions at Community Clinic of UCTH during the time of study.

Instrument for data collection

The instrument for collection of data was constructed by the researcher called "Questionnaire on Knowledge and Utilization of Modern Contraceptives in UCTH". It was divided into three (3) segments: sections A, B and C. While section "A" attended to informed consent from respondents, section "B" elicited information from respondents' socio-demographic data. Finally, section "C" contains binary questions to test respondents' level of knowledge and utilization of modern contraceptives. Questions were raised on a three (3) point rating scale of 'Yes', 'No' and 'No idea'. Coding and scoring were allotted as follows:

Yes - 2

No - 1

No idea - 0

Validation of instrument

To ensure validity of instrument, face validity was adopted for the study. In this case, the researcher submitted copies of the structured instrument for thorough assessment to the Project Supervisor who is a Research Expert in Federal Psychiatric Hospital Calabar. All

observed errors were amended and contributions taken note of in the final draft of the instrument.

Reliability of the instrument

To ascertain reliability of the instrument a split half reliability method was adopted. This was to ensure that internal consistency of the test items measures what it purport to measure. On that regards, the researcher administered 20 questionnaires to women who came for Antenatal Clinic at General Hospital Calabar. They were scored after responding and while scoring, each test was split into two (2) halves. Thereafter, the scores were divided into two set and result correlated with Pearson Product Moment of Correlation formula. Scores from both halves were subject to statistical analysis and reliability coefficients obtained ranged from 0.814 to 0.891 as presented in table 1 below. This showed that the instrument was reliable and could measure the variables under investigation.

Table 1: Estimation of Reliability Coefficient through split halve technique

S/No.	Variables	N	Test Positions	X	SD	r-$_{Cal}$
1	Knowledge of Modern Contraceptives	20	1sthalf 2ndhalf	55 47	1.5 1.27	0.814
2	Utilization of Modern Contraceptives	20	1st half 2nd half	52 58	1.47 1.22	0.891

Administration of instrument

Face to face administration of questionnaire was adopted by the researcher. With the help of a trained research assistant, one hundred and two (102) questionnaires were printed and administered four (4) times to different respondents at Community Clinic UCTH at four (4) visits to the clinic. The aim of study was clearly explained to clients and confidentiality to data was ensured. The process took 1 month to administer the instrument and on the spot return of instrument was maintained by the researcher and the assistant.

Data analysis

Data were collected from respondents. Same were sorted, grouped, coded, analyzed and interpreted with use of frequency, simple percentages, mean and standard deviations. The research hypothesis was tested using Pearson product moment correlation coefficient significant tested at $p<0.05$.

Ethical consideration

The researcher obtained a letter of introduction from the Head of Department of Health Science, National Open University of Nigeria, Calabar Centre and submitted to the Head of Unit, Community Clinic, UCTH Calabar for consideration and approval to conduct study. To secure confidentiality, no name, address and phone number was required in the instrument. Respondents were assured of their respect and freedom of choice and that they will not be prejudiced in any way if they choose not to participate in the study. Moreover, authors of books and journals used for this research work were properly referenced according to recommended APA reference standard version 6.

RESULTS, ANALYSIS AND FINDINGS

Presentation and analysis of demographic data

Table 4.1: Socio-demographic characteristics of respondents (n = 102)

Variable	Frequency	Percentage (%)
Age:		
18 – 25 years	21	20.6
26 – 35 years	58	56.9
36 year & above	23	22.5
Total	**102**	**100**
Marital Status:		
Single	7	6.9
Married	85	83.3
Divorced	-	-
Separated	10	9.8
Total	**102**	**100**
Educational qualification:		
Primary	13	12.7
Secondary	40	39.2
Tertiary	49	48.1
Total	**102**	**100**
Parity:		
Nulipara	37	36.3
Para	12	11.8
Para 2	19	18.6
Para 3	5	4.9
Para 4	29	28.4
Total	**102**	**100**

Employment status:

Unemployed	25	24.5
Self-employed	40	39.2
Civil servant	16	15.7
Student	8	7.8
Business	13	12.8
Total	**102**	**100**

Source: Questionnaire

Table 4.1 shows that majority 58 (56.9%) of the 102 respondents were between 26-35 years of age; majority 85 (83.3%) were married; majority 49 (48.1%) had secondary level of education; while most 37 (36.3%) of the respondents were nullipara; and a greater proportion 40 (39.2%) were self-employed.

Answering of research question

Research question 1: What is the level of knowledge of modern contraception among women of childbearing age in UCTH, Calabar?

To answer this question, related items under section C of the research instrument was analyzed and findings presented in Table 4.2 below.

Table 4.2: Knowledge of modern contraceptives among the respondents (n = 102)

S/No.	Items	Yes		No		No Idea		Total	
		n	%	n	%	n	%	n	%
1.	Contraceptive devices are means to control birth.	87	85.3	15	14.7	-	-	102	100
2.	Contraceptives are for female only.	66	64.7	21	20.6	15	14.7	102	100
3.	Do you think contraceptive device can completely prevent pregnancy?	42	41.2	51	50.0	9	8.8	102	100
4.	Do you think contraceptive devices can prevent sexually transmitted diseases?	74	72.5	20	19.6	8	7.8	102	100

5.	Means of contraceptives awareness;								
	a. Peers	9	8.8	93	91.2	-	-	102	100
	b. Family members	17	16.7	85	83.3	-	-	102	100
	c. Neighbours	5	4.9	97	95.1	-	-	102	100
	d. Learning institution/ School	27	26.5	75	73.5	-	-	102	100
	e. Radio	5	4.9	97	95.1	-	-	102	100
	f. Healthcare facility	39	38.2	63	61.8	-	-	102	100
	g. Internet	-	-	102	100	-	-	102	100
	h. Newspapers	-	-	102	100	-	-	102	100

Source: Questionnaire

Table 4.2 shows that majority 87 (85.3%) of the 102 respondents affirmed that contraceptive devices are means to control birth; majority 66 (64.7%) said 'yes' that contraceptives are for female only; half 51 (50.0%) of the respondents did not believed that contraceptive device can completely prevent pregnancy; while majority 74 (72.5%) answered in affirmative that contraceptive devices can prevent sexually transmitted diseases. The major 39 (38.2%) source of information regarding contraceptives among the respondents was the health facility.

Table 4.3: Summary of respondents' knowledge of modern contraceptive (n = 102)

Knowledge	No. of respondents	Percentage (%)	Range (scores)	Mean ($\bar{x}$)	Standard Deviation (SD)
Good	59	57.8	3 – 5	4.96	0.58
Poor	43	42.2	0 – 2	1.87	0.95
Total	**102**	**100**	**0 – 5**	**4.91**	**1.05**

Source: Table 4.2

Table 4.3 summarizes the respondents' knowledge of modern contraceptive. According to the Table, more than half 59 (57.8%) of the 102 participants had good knowledge of modern contraceptive with a knowledge mean score of 4.96 (0.58), while the remaining proportion 43 (42.2%) had poor knowledge with a knowledge mean score of 1.87 (0.95). An overall mean knowledge score of 4.91 (1.05) shows that there is good knowledge of modern contraceptive among women of childbearing age in UCTH, Calabar.

Research question 2: What is the level of utilization of modern contraceptives by women of childbearing age in UCTH?
To answer this question, related items under section D of the research instrument were analyzed and findings presented in Table 4.4 below.

Table 4.4: Utilization of modern contraceptives among the respondents (n = 102)

S/n	Variable	Response		
		Yes	**No**	**Total**
1.	Have you used contraceptives before?	96 (94.1%)	6 (5.9%)	102
2.	If yes, which of the under-listed contraceptive have you used mostly?			
	a. Oral contraceptive pills	16 (15.7%)	86 (84.3%)	102 (100%)
	b. Injectables	9 (8.8%)	93 (91.2%)	102 (100%)
	c. Implants	7 (6.9%)	95 (93.1%)	102 (100%)
	d. Emergency contraceptive pills	-	102 (100%)	102 (100%)
	e. Intrauterine contraceptive devices	2 (2.0%)	100 (98.0%)	102 (100%)
	f. Condom	45 (44.1%)	57 (55.9%)	102 (100%)
	g. Rhythm method	-	-	-
	h. Standard days method	5 (4.9%)	97 (95.1%)	102 (100%)
	i. Lactational Amenorrhea	-	-	-
	j. Withdrawal method	12 (11.8%)	90 (88.2%)	102 (100%)
	k. Tubal litigation	-	-	-
3.	How often do you use contraception?			
	Always	47 (46.1%)	55 (53.9%)	102 (100%)
	Sometimes	51 (50.0%)	51 (50.0%)	102 (100%)
	Rarely	4 (3.9%)	98 (96.1%)	102 (100%)
4.	Are you currently using contraceptive?	32 (31.4%)	70 (68.6%)	102 (100%)
5.	Will you recommend contraceptive to other women?	73 (71.6%)	29 (28.4%)	102 (100%)

Source: Questionnaire

Table 4.4 shows that nearly all 96 (94.1%) of the 102 participants have used modern contraceptive prior to the study. The major 45 (44.1%) contraceptive used by the respondents was condom. Half 51 (50.0%) of the participants sometimes use this contraceptive; while majority 70 (68.6%) are not currently using contraceptives; and majority 73 (71.6%) will recommend contraceptive to other women.

Table 4.5: Summary of respondents' level of utilization of modern contraceptives (n = 102)

Level of utilization	No. of respondents	Percentage (%)	Range (scores)	Mean ($\bar{x}$)	Standard Deviation (SD)
High	50	49.0	4 – 6	5.65	0.98
Low	52	51.0	0 – 3	2.92	1.63
Total	**102**	**100**	**0 – 6**	**4.04**	**1.07**

Source: Table 4.4

Table 4.5 summarizes the respondents' level of utilization of modern contraceptives. The Table shows that slightly half 52 (51.0%) of the 102 respondents showed a low level of utilization of modern contraception with a mean utilization score 2.92 (1.63), while the remaining proportion 50 (49.0%) showed a high level of utilization of modern contraceptives with a mean utilization score of 2.92 (1.63). An overall mean utilization score of 4.04 (1.07) reveals that there is a low level of utilization of modern contraceptives among women of childbearing age in UCTH, Calabar.

Research question 3: What are the demographic determinants of utilization of modern contraceptives among women of childbearing age in UCTH, Calabar?

To answer this question, a Chi-square test of association was carried out to ascertain the association between the respondents' demographic characteristics and their level of utilization significant at 0.05. Results of this analysis are summarized in Table 4.6 below.

Table 4.6: Socio-demographic determinants of utilization of modern contraceptives among the respondents (n=102)

Socio-demographic characteristics	Utilization of modern contraceptives			X^2	*P-value*	Decision
	High	**Low**	**Row Total**			
Age:						
18 – 25 years	10	11	21			
26 – 35 years	32	26	58	9.31	*<0.05*	Significant
36 years & above	8	15	23			
Column Total	50	52	102			
Marital Status						
Single	7	-	7			
Married	34	51	85	12.52	*<0.05*	Significant
Separated	9	1	10			
Column Total	50	52	102			
Educational status	2	11	13			
Primary	15	25	40	34.94	*<0.05*	Significant
Secondary	33	16	49			
Tertiary	50	52	102			
Column Total						
Parity						
Nulipara	17	20	37			
Para	9	3	12			
Para 2	11	8	19	37.85	*<0.05*	Significant
Para 3	1	4	5			
Para 4	12	17	29			
Column Total	50	52	102			

Employment status:						
Unemployed	11	14	25			
Self-employed	15	25	40	3.91	>0.05	Not Significant
Civil servant	10	6	16			
Student	7	1	8			
Business	7	6	13			
Column Total	50	52	102			

Significant at 0.05

Table 4.6 shows that the demographic determinants of utilization of modern contraceptives among the respondents are; age, marital status, educational level, and parity. Thus, utilization of modern contraceptives among women of childbearing age in UCTH, Calabar is significantly influence by their age, marital status, academic attainment, and parity.

Test of hypothesis

H_0:   There is no significant relationship between knowledge and utilization of modern contraceptive among childbearing women in UCTH, Calabar

H_1:   There is a significant relationship between knowledge and utilization of modern contraceptive among women of childbearing in UCTH, Calabar

Table 4.7: Contingency chi-square analysis showing the relationship between knowledge and utilization of modern contraceptive among the respondents

Level of knowledge	Utilization		Row total	df	Cal χ^2	Crit. χ^2
	High	**Low**				
Good	44	15	**59**	1	36.682	3.841
Poor	6	37	**43**			
Column total	**50**	**52**	**102**			

Significance at 0.05

Decision

Since the calculated value of Chi-square (36.682) is greater than the critical Chi-square value (3.841), in line with the decision rule, we reject the null hypothesis and conclude that there is statistically significant relationship between knowledge and utilization of modern contraceptives among women of childbearing age in UCTH, Calabar.

Discussion of findings

This study was conducted to determine knowledge and utilization of modern contraceptive among women of childbearing age in UCTH, Calabar. Findings of this study were discussed below in with the objectives of the study.

Knowledge of modern contraceptives among women of childbearing age in UCTH, Calabar

Results of the present study revealed that most of the study participants knew that contraceptives are means of birth control; and majority knew that contraceptives can prevent sexually transmitted diseases. On the other hand, majority of the participants did not know that contraceptives are not meant for females only; and majority did not know that contraceptives cannot prevent pregnancy completely. A summary of the respondents' scores in knowledge revealed that there is a good knowledge of contraceptive and its uses among women of childbearing age in UCTH, Calabar. This finding is in line with Gajida et al (2019) who reported a good knowledge of modern contraceptives among women of reproductive age in urban area of Kano State, Nigeria. Similarly, Idowu et al (2020) found good knowledge of contraceptives among women of reproductive age in Ejigbo, Osun State which is in consonance with findings of the present study.

Utilization of modern contraceptives among women of childbearing age in UCTH, Calabar

Findings of this study revealed that nearly all the study participants have utilized contraceptive prior to the study. Among women who have used contraceptive, the mostly used type was condom. Majority does not use contraceptives always and a greater proportion of the participants were not using it as at the time of the study. However, a great majority of the participants affirmed that they will recommend contraceptive to other women. A summary of the respondents' utilization of modern contraceptive revealed that there is a high (slightly) level of utilization of modern contraception, despite the fact that slightly half of the participants indicated a low level of utilization of modern contraceptive. This result is in accordance with findings of Megabiaw (2012) who found that the use of modern contraceptives among street women in North-West Ethiopia was satisfactory. On the contrary, Solanke (2017) found that majority of women of advanced reproductive age in Nigeria were not using any contraceptive method due to their risk on multiparous women. This finding contradicts finding of the present study.

Demographic determinants of utilization of modern contraceptives among women of childbearing age in UCTH, Calabar

Results of the present study revealed that the socio-demographic characteristics of the participants that significantly associated with their level of utilization of modern contraceptives were; age, marital status, educational level, and parity. Hence, younger women, women who are single, women with high educational level, and women who are multipara, tend to use modern contraceptives compared to their counterpart. These findings agree with Tessema et al (2021) who reported that maternal age, being married and higher educational level significantly associated with level of utilization of modern contraceptives among women of reproductive age in Eastern African region.

Relationship between variables

The test of research hypothesis revealed a calculated value of Chi-square which was greater than the critical Chi-square value tested at stipulated level of significance and degree of freedom. With this observation, it was concluded that there is a statistically significant relationship between knowledge and utilization of modern contraceptives among women of childbearing age in UCTH, Calabar. This finding agrees with Idowu et al (2020) who found that contraceptive knowledge significantly associated with the use of contraceptive among women of reproductive age in Ejigbo, Osun State, Nigeria.

Summary of findings

The present study was conducted to assess knowledge and utilization of modern contraceptives among women of childbearing age in University of Calabar Teaching Hospital, Calabar. Below is a summary of the study's findings;

1. Majority of the participants were; between 26 – 35 years of age, married, had tertiary level of education, were nullipara, and majority were self-employed.
2. Majority had good knowledge of modern contraceptives and its utilization; hence, the conclusion that there is a good knowledge of modern contraception among women of childbearing age in UCTH, Calabar.
3. There is a slightly high level of utilization of modern contraception with condom being the most frequently used contraceptive among women of childbearing age in UCTH, Calabar.
4. The demographic determinants of utilization of modern contraceptives include; women's age, marital status, academic attainment, and parity.
5. There is a statistically significant relationship between knowledge and utilization of modern contraceptives among women of childbearing age in UCTH, Calabar.

Implication of the study

Result of this study shows that women's level of utilization of modern contraceptive significantly depends on their knowledge regarding contraceptives. Hence, higher level of utilization is indicated among women with good knowledge of contraceptives. This implies that nurses should conduct frequent seminars and workshops on contraceptives to reproductive age women in the hospital as a strategy to boost their knowledge and improve the level of utilization of modern contraceptives to curtail unwanted pregnancies and avert pregnancy related morbidity and mortality among the category of the women population.

Recommendations

Based on the results of the study, the researcher recommends that;

1. Government through the ministry of health should provide a forum to educate women of childbearing age on the need and benefits to utilize modern contraceptives as a strategy to control unwanted pregnancies.
2. Adequate funding should be provided for family planning unit in Hospitals to enhance the availability of modern contraceptives.

3. Mass media enlightenment should be provided to the general public in order to discourage negative societal and religious beliefs regarding the use of modern contraceptives.
4. Government should subsidize contraceptives to encourage its utilization among women of childbearing age for effective birth control.
5.

Suggestions for further study

The researcher suggests that similar study should be conducted in the study area to serve as a comparative study, and the impact of factors apart from knowledge on utilization of modern contraceptives should be ascertain to shade more light on how these factors could contribute to utilization of modern contraceptives among women of reproductive age in the area.

Conclusion

Following the findings of this study, it is concluded that there is a good knowledge of modern contraceptives among women of childbearing age in UCTH, Calabar. Consequently, the women's level of utilization of modern contraceptives was high and condom was the mostly utilized type of contraceptive among the women. Women's age, marital status, level of education, and parity, were the demographic variables that significantly influence women's level of utilization of modern contraceptives. There is a statistically significant relationship between knowledge and utilization of modern contraceptive among women of childbearing age in the study area.

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