# UNIVERSITY OF NIGERIA

# THE HUMAN DRAMA OF CONTRACEPTION- ADOLESCENCE TO ANDROPAUSE / MENOPAUSE: THE EVIDENCE

AN INAUGURAL LECTURE OF THE UNIVERSITY OF NIGERIA NSUKKA DELIVERED ON 28TH SEPTEMBER 2017

BY

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**124TH INAUGURAL LECTURER**

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**Summary**
Over the years contraception has been an issue that is very dear to humans. Women prefer not to talk about it because of obvious public reactions. A woman expects her doctor to initiate discussions on Contraception.

The frequently asked questions include Doctor, how do I space my children? How do I stop having children? What is the best contraceptive method for me?

The fear of public reaction and private acceptance have driven the use and practice of contraception. There is enough scientific evidence that contraception saves life and improves the health condition of those that use it. The knowledge about child spacing methods are usually based on myths and misconception.

The first recorded drama of contraception in the Holy Bible was by Mr Onan (Genesis 38:9) He practised withdrawal method. In this lecture, I looked at the social and religious influences on the practice of contraception.

Every religious organization accepts some child spacing methods ranging from natural methods to artificial methods. It is pertinent to note that Nature did not prepare humans to optimize their reproductive potential. This is clearly demonstrated on Nature's reproductive wastages like in wet dreams and the thousands of eggs females are endowed with at birth.

The anatomy and physiology of the male and female reproductive system were presented. This will help all to fully understand child spacing methods. The mode of action of each method and my contribution were highlighted.

The unmet needs for contraception seen as lost opportunities were fully presented. Different types of gynaecological problems that result from non-use of contraceptives by ladies were depicted. The low utilization of

contraception continues to act as manure for induced abortion with its dire consequences, especially on our young women.

Finally, as one grows old, sexual activity decreases but there is still need for contraception. This prevents unplanned pregnancy in old age. The risk of child birth in elderly parturient is enormous. Men even at andropause can still father children .

**Protocols**

The Vice Chancellor, Professor Benjamin Chukwuma Ozumba.

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- Provost, College of Medicine
- Deans of Faculties, Postgraduate School and Student Affairs
- Directors of institutes and centres
- Professors and other members of the University Senate
- Past Inaugural Lecturers
- Heads of Departments and other Academic Colleagues
- Members of Administrative and Technical Staff.
- Members of my Family, Nuclear and Extended
- My Lords Spiritual and Temporal
- Distinguished Guests
  Great Unmsites,
  Lions and Lionesses
  Ladies and Gentlemen.

I am very delighted to deliver the 124$^{th}$ Inaugural Lecture of the University of Nigeria my Alma mater on this day.

The lecture is an opportunity any academic will gladly accept. The lecture offers the newly appointed professor the opportunity to present his work to his colleagues, the university community and the general public.

The topic today is “The Human drama of contraception”. Both the scientific and religious worlds are interested in child spacing methods. Child spacing saves the lives of mothers and improves the quality of life of the husbands and the children.

I decided to look at the anatomy and physiology of the human reproductive system and points of intervention by child spacing methods. I also looked at

the consequence of lost opportunities and the adverse health consequences that followed, non- use of contraception.

**Who is Professor Hyginus Uzo Ezegwui?**
I am the third out of eight children of Mr Alexander and Mrs Elizabeth Ezegwui (both of blessed memory) of Umudim Village Nnokwa Idemili South LGA of Anambra State.

My primary education was from 1971 to 1975. As the son of an itinerant headmaster, I had my primary school education at Oraukwu, Uke and Umunachi, all in the old Idemili Local Government Area of Anambra State.

I entered St Joseph Secondary School Awkaetiti in 1975. I spent only one year there before I transferred to All Hallows Seminary Onitsha.

It was the strict training of my parents and the discipline from the All Hallows Seminary Onitsha that formed my early life.

After obtaining my school certificate with division one in All Hallows Seminary Onitsha, I was called to stay back to teach in my alma mater for one year as Apostolic work. At age of 17 I was already an auxiliary teacher. I then proceeded to Bigard Memorial Seminary Ikot Ekpene where I spent two years learning Philosophy and Logic.

In December 1982, I voluntarily opted out of the priesthood vocation. My senior brother, Emeka, then a medical student in UNN, advised me to sit for JAMB. In his words then, “You should brave it”, having left my science books for 3 years. I needed to refresh and master the subjects in 3months and sit for the JAMB.

I went back to my parents at Nnokwa and prepared for my JAMB on my own. While awaiting the result, I took up a job as an auxiliary teacher at Nnobi High School. God was on my side. I passed into the UNN in 1983/84 session at first sitting and on merit. My journey into the medical school started. I graduated with my mates in 1989.

I did my internship at the University of Nigeria Teaching Hospital (UNTH) Enugu. During my Internship I got interested in Obstetrics and Gynaecology. The Obstetricians looked happy and well dressed. Their patients recovered fast

and smiled at them. There were very few death certificates written in the maternity ward.

My NYSC was at St Louis Hospital Zonkwa in Southern Kaduna. In the hospital, women were dying in their 10th pregnancy. I came to the conclusion that this carnage must be prevented. On completion of the Youth service I worked as a medical officer at Visitation Hospital Umuchu; thanks to Rev Father Polycarp Obikwelu. It was more of a maternity home. During that period, I passed my primary fellowship examinations of the National Postgraduate Medical College of Nigeria in Obstetrics Gynaecology at first sitting.

I remain eternally grateful to the wise men in the Department of Obstetrics and Gynaecology that admitted me into the Residency programme at UNTH Enugu in 1995. The interview for residency training was conducted in a transparent manner and we were admitted into the programme on merit. I did my residency programme in less than 5 years and passed all my examinations at first sitting.

I had my major training in clinical Obstetrics and gynaecology under Prof Wilfred Chukudebelu and Prof Arthur Ikeme. The other erudite scholars in the department also taught me during ward rounds, calls, theatre sessions and clinical conferences.

When I passed my final examination I applied to be a lecturer in the Department in 2001. This was facilitated by Prof Ikeme A.C.C., the then Head of Department. However the pressure from above did not allow that dream to materialize immediately.

I secured appointment as a consultant at Federal Medical Centre (now Federal Teaching Hospital) Abakaliki. It was during the wedding of one of my class mates, Dr Uche Nwagbo in 2005 that I met Professor Gabriel Iloabachie. He asked me to re-apply for the post a lecturer.

It was the wisdom of Professor Gabriel Iloabachie, Obstetrics and Gynaecology departmental board and the then Provost, College of Medicine, Prof Benjamin Chukwuma Ozumba that made it possible for me to stand before you today.

I was appointed a senior lecturer in 2005 and rose to the rank of a professor in 2010.

**My Teaching and Research.**

My first attempt at publishing was with Professor Uzo and late Professor Nonye Aniebue. I wrote a paper on "Attitude of Health workers to HIV patients". I wanted both of them to critically review the manuscript. When I collected it back, it was full of red inks. However, after much struggle it was published in the then Journal of College of Medicine in 2000.

The next was with Professor Hyacinth Onah. He supervised my dissertation and saw me through subsequent publications. He was kind and guided me through many more publications.

It was Professor Benjamin Chukwuma Ozumba the current Vice Chancellor that introduced me to the international journals. I remember one day in front of the Department of Obstetrics Gynaecology, I informed him that our paper has been sent to a journal in Nigeria. He responded, "Doc why do you want to publish me into obscurity?" He advised me to publish in international journals of repute. In the PUBMED my first International publication "Intrauterine adhesions in African Community" was co-authored with him. This was before the impact factor came into assessment in the university. He saw far and that international exposure helped me a lot.

My mentor, Prof A.C.C Ikeme, the then head of department was a great booster to my interest in research. We did extensive researchers together. He was calling me every day to discuss the progress of all our manuscripts. Majority of my papers were co-authored with him.

Prof Sam Mgbor was another ally. I approached him at HANSA Clinics. He had a small inner room where we discussed about manuscripts over garden eggs, groundnuts and banana. He co- authored most of my Radiology based papers. I also went to see Prof W.I.B. Onuigbo. When I entered his office at 8 Nsukka Lane, he asked me what I wanted. I told him I just wanted to publish with him. He smiled and quickly brought data on postmenopausal bleeding. He told me then to write up the manuscript and bring all articles cited. The paper was published in the Journal of College of Medicine.

Finally I visited the convent at Mile Four hospital Abakaliki to look for Rev Sister (Dr) Twomey. I heard she has done a lot of work on Nigerian women. My mission was to publish with her. She welcomed me with open arms. She took me to her library where many editions of British journal of Obstetrics and

Gynaecology were kept neatly on her tables. We decided to write on the use of symphysiotomy to relieve obstructed labour. The paper was published in International Journal of Obstetrics Gynaecology.

It was interesting how an orphan researcher went out of his way to find erudite scholars.

It paid off and today I have not only published but have made senior friends and have learnt how to mentor others.

**My plans for the future**

I have to continue to work on the role of endoscopy in Gynaecological investigations and treatment. Minimal Access Surgery has revolutionized gynaecological surgery.
I shall continue my research work on endoscopy and reproductive health.

## INTRODUCTION

Contraception simply means prevention of pregnancy. When contraception is used to space children or limit family size it is called child spacing or family planning.

There is evidence that child spacing reduces maternal morbidity and mortality. It also improves the quality of life of the mother, the child and even the husband.

The dangers of pregnancy and child birth are greater than those associated with contraception. Unplanned pregnancy can lead to unsafe abortion that contributes significantly to maternal mortality. Most people know about women dying from childbirth but none from contraception.

There are “hamper like” choices in child spacing methods. Some methods require action at each sexual act (condom), others everyday (oral pills) and some every 3 months (Depo provera). However there are others that are permanent and irreversible (Vasectomy and Bilateral tubal ligation).

In natural family planning one charts ones fertility and abstains from sexual intercourse during fertile periods. There is a need to undergo training to practice it effectively.

Two main factors determine the effectiveness of a contraceptive; the inherent effectiveness of the method and the behaviour of the user or users. The users’ behaviour greatly influences the effectiveness of the method.

Some side effects are associated with child spacing methods such as irregular bleeding. These child spacing methods have other benefits called non contraceptive benefits. Reduction of epithelial ovarian cancer by around 40% stands out among all other benefits; persisting for at least 15 years after discontinuing oral contraceptive pills. [1]

Our ancestors attempted to space their children through extended period of breast feeding, postpartum abstinence and polygamous marriages. This guaranteed spacing their children. Our modern life styles with both working parents in a monogamous marriages make these practices difficult.

Attempt at controlling sexual activity in the female folks was done through female genital cutting.[2] This brought untold hardship on our female population leading to severe morbidity.[3]

Most women want safe and simple methods to space their children but are receiving conflicting information from many quarters: mother, mother-in-law, husband, sisters, friends and even from the clergy.

Child spacing is a right of every couple, to determine the number and time of having their children. It is more than population control.

I shall attempt as we go through this lecture to show evidence from my work that child spacing saves life. Evidence will help us rely on sound scientific data rather than fables or outside information to make child spacing decisions.

**HUMAN REPRODUCTIVE WASTAGE**

The reproductive process starts before sexual intercourse. Special cells called gametes are produced by the male and female. The formation of a new person requires the joining of the male gamete (spermatozoon) and female gamete, (ovum).

These gametes are produced in large numbers. Almost all are lost except the one female gamete ovum and the male gamete spermatozoon required for fertilization in each pregnancy. It is clear from the above, that Nature did not prepare humans to optimize their reproductive potential.

The female eggs are lost in the monthly cycle from puberty, except pregnancy occurs; that is the reason some folks refer to menses as weeping of the disappointed uterus. Semen is lost in wet dreams.

Most contraceptives prevent the union of the male and female gamete encouraging nature's reproductive wastage. Any attempt to optimize all reproductive potential may likely result in severe morbidity or mortality.

**RELIGIOUS VIEWS**

In Human vitae (or Human life) a papal encyclical issued in July 25$^{th}$ 1968 Pope Paul II explained the position of the church on regulation of birth as follows:

"Each and every marriage act must remain open to the transmission of life".[4] This is the moral reflection of the Roman Catholic Church. The only methods of birth control which the church considers acceptance were abstinence and the natural methods.

The 1930 Lambeth Conference of the Anglican Communion affirmed the use of contraception, though only under certain circumstances and after much debate and controversy.

Where there is clearly felt moral obligation to limit or avoid parenthood, the method must be decided on Christian principles. The primary and obvious method is complete abstinence from intercourse (as far as may be necessary) in a life of discipline and self-control lived in the power of the Holy Spirit. Nevertheless in those cases where there is such a clearly felt moral obligation to limit or avoid parenthood and where there is a morally sound reason for avoiding complete abstinence, the conference agreed that other method may be used, provided that this is done in the light of the same Christian principles.

The conference recorded her strong condemnation of the use of any method of conception control from motives of selfishness, luxury or mere conveniences. [5]

Genesis 38:9 states: 'But Onan knew that the heir would not be his; and it came to pass, when he went in to his brother's wife, that he emitted on the ground, lest he should give heir to his brother'.

Coitus interruptus was used by Mr Onan to avoid pregnancy. He emitted on the ground so that he would not give an heir to his brother. He was punished because of his wrong motive not because of the contraception.

1 Timothy 5:8: But if any one does not provide for his own and especially for those of his household, he has denied the faith and is worse than unbeliever.

There is thus need to limit family size so as to be able to provide for one's household.

**Koran**

According to Koran mothers shall give suck to their offspring for two whole years (Qur'an 22: 33).

In summary, most religious authorities agree on child spacing but differ on the methods to achieve it.

What is left to bridge this gap is sound scientific evidence.

## ANATOMY AND PHYSIOLOGY OF THE MALE AND FEMALE REPRODUCTIVE ORGANS

In order to understand the contribution of the male and female to child spacing, it is important one understands the anatomy and physiology of the reproductive organs. The points of action of the different contraceptive methods will be discussed.

### MALE

The male reproductive system is mainly located outside the body. The anatomy and physiology of the male organ is not easily employed in child spacing methods. A man can ejaculate up to 100 million spermatozoa at once. It is difficult to find one drug that can eliminate these millions of spermatozoa. This is the reason it seems male do not participate much in the child spacing methods.

The reproductive organs consist of two testes, two epididymis, two vas deferens, two spermatic cord, two seminal vesicles and two ejaculatory ducts. Others are bulbourethral and urethral glands. It also consist one prostate and one phallus.

**Testis:** This is located between the thighs and produces the hormone testosterone and male gametes spermatozoa. It consists of seminiferous tubules and interstitial cells. The location helps the testis to remain at a lower temperature than the human body.

**Vas Deferens**: The vas deferens is the continuation of the epididymal duct from the tail of the epididymis. It is about 25cm in length. It transverses the anterior

abdominal wall through the inguinal canal and ends by joining the duct of the seminal gland to form ejaculatory duct. It transports the spermatozoa from the testicles to the seminal vesicles. It is at the level of vas deferens that vasectomy is performed. It stops the transport of the spermatozoa to the urethra to be ejaculated.

Vasectomy is the most effective form of contraception. Vasectomy does not affect male sexual performance. The male still ejaculates semen but with no spermatozoa in it. However, it is almost not utilized in our environment. We wondered why men are not coming for Vasectomy.

In our cross sectional study in Enugu using self-administered questionnaire to 146 men that accompanied their wives to the family planning clinic and labour ward, only ten (6.8%) may accept vasectomy with the knowledge they have while 130 (89.0%) will not. Eighty eight (67.7%) believed sterilization procedures should be left for women only. Vasectomy was viewed as castration by 55 (40.7%). The attitude to vasectomy was based on myths and misconceptions. Interestingly level of education does not improve vasectomy uptake. [6] Vasectomy is cheaper and simpler than tubal ligation.

Medical personnel have the potential to enhance not only contraceptive knowledge but also its acceptance by clients. However medical doctors were found from our study to be less favourably disposed to contraception than the general population.[7] Very few of them will accept vasectomy. This is worrisome as these doctors carry considerable influence, on the general population. Doctors, therefore, also need to be encouraged to accept vasectomy.

**Ejaculatory Duct:** These are tubes about 2cm in length. The ejaculatory ducts are formed by the union of the ducts of the seminal glands, with the ductus deferentes just distal to the Ampulla. The duct transport seminal fluid and spermatozoa to the urethra either into the female genital tracts or to the outside world.

**Spermatic Cord:** This is made up of the testicular artery with its attendant venous plexus, lymph vessels and vas deferens and nerves.

**Urethra:** This provides a common pathway for semen and urine.

**Phallus:** This has a rich blood supply and contains erectile tissue. During sexual stimulation, the phallus becomes engorged with blood and causes erection.

The barrier method of contraception act at this level. It collects the semen and prevent it from entering the female genital tracts. It has a triple function of pregnancy prevention, prevention of sexually transmitted infections and preservation of future fertility. It is not surprising that it is the commonest child spacing method used by medical practitioners from our study. [7]

Males have been accused of not participating in family planning but our studies revealed otherwise.

We distributed questionnaires to 243 consecutive women attendee of the family planning clinic UNTH. The male involvement in the decision was 56.4% especially for women over 35 years. Covert contraceptives use rate was low 4.9%.[8] This shows that majority of women involve their male partner in making a choice of contraceptives. However a woman's reproductive right empowers her to make child spacing decisions without the partner consent.

**ANATOMY AND PHYSIOLOGY OF THE FEMALE REPRODUCTIVE SYSTEM**

The organs in contrast to that of males are located inside the woman.
The components of the female reproductive system are:

1. A pair of ovaries
2. A pair of Fallopian tubes
3. The Uterus
4. Vagina
5. External genitalia

**1. The Ovaries**

This is similar to the testis in the male. They lie against the lateral wall of the upper part of the true pelvis.

Every month, numerous eggs are recruited in either ovary but only one becomes dominant and is released every month. The other eggs become atretic. The egg

released maybe fertilized by a spermatozoon at the level of the fallopian tube. If there is no fertilization the egg released dies.

The ovarian surface becomes scarred and irregular due to repeated rupture of the ovarian follicles and discharge of oocytes during ovulation. This scarring of the ovaries and epithelial ovarian cancer are less in women taking oral contraceptive pills for child spacing[1].

The child spacing methods that prevent ovulation are progestogen implants (such as implanon implants, jadelle implants),injectable progestogens( Depo provera),progestogen only pills( postinor 2) and combined oral contraceptive pills. The Lactational amenorrhoea method (LAM) and these hormonal methods prevent ovulation. In Fertility awareness methods one avoids unprotected sexual intercourse around the time of ovulation.

There are other non-contraceptive benefits such as:

1. Good cycles control
2. Suppression of endometriosis.
3. Protective effects against ovarian cancer
4. Protective effects against endometrial cancer
5. Suppression of Benign ovarian cyst.
6. Reduced incidence of benign ovarian cysts
7. Reduced incidence of Fibroids
8. Improvement in premenstrual syndrome
9. Reduction in dysmenorhoea
10. Reduction in menstrual loss

In summary women on hormonal contraceptive are less likely to require hospital admission for major and minor gynaecological surgery [1].

**a. Implants**

This prevents pregnancy and encourages child spacing through ovulation induction inhibition and thickening of the cervical mucus. It is usually inserted at the upper arm of the non-dominant hand. University of Nigeria introduced norplant implants contraceptive into family planning clinic in 1992.

Our study of implants revealed that complete family size was the commonest reason (50.5%) for norplant insertion and majority of the clients are grand multiparious women. Complications occurred in 4.7% of the patients, and consisted of post insertion pain and site infections. [9] Menstrual disturbance is the commonest side effect and reason for discontinuation .[10]

Even though the implants were licenced for 5 years we discovered that our clients carried it for more than 5 years and did not get pregnant. We suggested that above five years implants may still be effective in older women. [11] This however requires more studies.

**b. Emergency Contraceptives**

The commonest is levonorgestrel only pill (postinor 2). It acts at the level of the ovary inhibiting ovulation and thickening of the cervical mucus. It is taken within 72hous of intercourse. It does not cause abortion. It is indicated in rape or when condom slips off or is lost during sexual intercourse.

We investigated the knowledge, use and attitude towards emergency contraceptives pills among 420 female undergraduates. The majority of the respondents (95%) were aware of contraceptives and 61% have learnt about emergency contraceptives. However only 31% had actually used it. Their source of information were friends and teachers. While using emergency oral contraception 82/420 (19.5%) got pregnant, and 158/420 (37.6%) did not get pregnant. Out of 82 that got pregnant, majority 44(53.7%) procured illegal abortion. The rest 38(46.3 %) carried the pregnancy to term and delivered. About 40% of the female undergraduates accepted to use it when informed and would recommend it to other female students.

Increased utilization of emergency contraception is plagued with fear of infertility, anovulation, ill health and sexually transmitted infection.[12] Emergency contraception is better than abortion.

Do you know of any teenager that has died from emergency contraception; compare with the number that have died from procuring an abortion?

### c. Depot Medroxyprogesterone Acetate(dmpa) (Injectable Depo provera)

This acts on the Ovary and the uterus. It prevents the egg from being released from the ovary. It lasts for only twelve weeks. It is quite safe during breast feeding.

In our study we found that Depo provera was quite effective and accounts 21.4% of all new acceptors for various forms of contraception. It is accepted mainly by clients that have completed their family (70%) and are breast feeding (80.2%). The major side effects are menstrual abnormality.[13]

The advantage is that nobody will know that one has had an injection. It can thus be used covertly. One lady accompanied by her stern looking husband walked into our clinic and the husband demanded that her family planning device should be removed because he owns the woman. He was obliged. However when the couple left the clinic the woman intentionally forgot her bag. On getting to the gate she took permission to go and pick her bag. The husband agreed. As she moved into the family planning clinic she quickly requested to be given Depo-Provera. We obliged her and she later joined her husband.

Majority of women believe they will not be pregnant while breast feeding. Lactation can only prevent pregnancy if the woman is practising exclusive breast feeding, and has not resumed menses and the baby is less than six months. There is no need playing games that will result in unplanned pregnancy. The commonest request for termination of pregnancy is by women that are breast feeding and became pregnant. It is better to be on postpartum contraception than to start asking whether to terminate the pregnancy or to stop breast feeding.

## 2. Fallopian tube

There are two fallopian tubes in the females. The length of each tube is 10cm and has four parts:

a. Interstitial portion
b. Isthmus
c. Ampulla which is the largest part

d. infundibulum or the fimbriae portion.

Fertilization takes place at the fallopian tube. When the tubes are blocked or severed as in bilateral tubal sterilization the patient can no longer conceive.

Tubal sterilization is commonly employed in contraception to limit family size. It is an irreversible procedure that prevents fertilization. Unlike vasectomy it is better accepted by our women.

However, there is a decline in acceptance of interval sterilization since 2004. [14] Tubal ligation is employed in some cases of ruptured uterus, [15] and high order caesarean sections, [16] in order to prevent maternal morbidity and mortality in future pregnancies.

Tubal ligation should be considered by women who have completed their family or those who have life threatening medical conditions complicating pregnancy. Another good news is that tubal ligation may decrease the risk of developing ovarian cancer. When the tube is ligated it disconnects the communication between the ovaries and outside world cutting off environmental factors from contaminating them.

We also suggested that tubal ligation should be considered in patients with ruptured uterus to reduce the risk of maternal death in future pregnancies.[17]

**3. Uterus**

The uterus otherwise called the womb houses the baby. It is a triangular structure with the base upper most and the apex at the junction with the cervix. In the upper part of the uterus, the fallopian tubes open into the uterus at the sides.

The walls of the uterus are normally in contact and can easily be separated by a distending medium. If fertilization occurs in the fallopian tube, the fertilised ovum descends into the uterus and implants into the endometrium lining the uterus. The uterus houses and nourishes the baby.

If fertilization does not occur, the endometrial lining is shed. The uterus then bleeds and is seen as menstrual flow.

The child spacing method like Intra-uterine contraceptive device (IUCD, TCU380A ) act on the uterus to prevent fertilization in the Fallopian tubes. The copper ions from the device destroys the spermatozoa as it enters the uterus. It does not cause abortion.

Our study of IUCD TCU 380A revealed that it is both safe and effective. It is used for both child spacing and limiting family size.[18] The commonest complication in our study was heavy menstrual bleeding (menorrhagia) and was responsible for removal in 3.6% of the women studied. Other rare complications were the translocation or missing IUCD.

We reviewed missing IUCD over an eleven year period from 1990 to 2000. A total of 44,975 clients were seen at Family Planning Clinics. Twenty two thousand one hundred and sixty eight (21168) used IUCD giving 55.96% of the total contraceptive use. Of these, there were 20 cases of missing IUCD, giving the incidence as 0.08%. One had missing IUCD co-existing with pregnancy at 10 weeks.[19]

**4.The Vagina**

This connects the uterus to the outside world. It is a muscular canal about 10cm in length. The posterior wall is longer than the anterior wall and is also deeper. It is a potential space. The mouth of the womb called the cervix projects into the vaginal vault and has four fornices.

During birth the vagina, cervical canal and the uterus form a continuous passage through which the mature fetus is born. Both the elasticity and lubrication of the vagina are lost in old age.

At the level of the external genitalia a female barrier method such as female condom acts as a barrier. It was designed to empower the female. It also offers triple protection against unwanted pregnancy, sexually transmitted infection and safe guards future fertility.

The female condom gives the female a means of preventing both pregnancy and sexually transmitted infections. Thus , this is a female controlled means of barrier contraception.

In South East Nigeria, the level of sexual activity among under graduates' students in university is high.[20] Among 313 female undergraduates interviewed about 76.7 % had knowledge of female condoms. Majority of them had their first sexual experience between the ages of 10 to 15years. Fifty (15. 9%) have used the female condom since admission into tertiary institution to prevent pregnancy and sexually transmitted infection. However the potential drop out rate was 58% because of costs and non- availability. Their primary reason for use of the female condom was because it is under their own control. [21]

**UN- MET NEED FOR CONTRACEPTION**

Substantial proportion of women who want to stop or delay child bearing have not practised contraception. This discrepancy that varies among different settings is called unmet need for contraception. [22]The current prevalence of unmet need for contraception in Nigeria is about 20% [23]. The reason are many and varied includes (1) Lack of services and break in supply chain (2) Choices are limited (3) Partners Opposition (4) Social disapproval (5) Fear of side effects. These are lost opportunities to intervene to reduce the rising maternal morbidity and mortality that accompany unplanned pregnancies and abortions, and their sequelae.

***Let us look at some of those unmet need for contraception.***

**Adolescent**

World Health Organization Identifies adolescences as the period in human growth and development that occurs after childhood and before adulthood from ages 10 to 19 years. There have been dramatic changes over the past century like earlier onset of puberty, later age of marriage, urbanization, global communication and changing sexual attitudes and behaviours. Most adolescent now see more nude women and men in a day more than their grandparents saw in their whole life time in the internet. Most adolescents are poor users of contraceptives and there is societal disapproval of adolescent contraceptives.

In a questionnaire survey of the contraceptive attitude and practice of 386 male doctors practicing in Enugu and a comparison of these with those of a previous study of the general male population in Enugu, 55.7% of the respondents

favoured adolescent contraceptives use, while 22.8% of these would not allow their adolescent Children access to contraception.[7]

Nature confers fertility on young people at an age when developmentally and socially pregnancy is neither in the individuals or society's best interest, [24] leading to teenage pregnancy and abortion.

**Unsafe Abortion**

Unsafe abortion is the termination of a pregnancy by someone lacking the necessary skill or in an environment lacking minimal medical standards or both. Complications of unsafe abortion are a common reason for admission in our institutions. We reviewed abortion related maternal deaths from 2000-2005. There was 93 pregnancy related deaths and 11 were abortion related. 27.3% of them were teenagers and 54.5% were unmarried. Induced unsafe abortion constituted the bulk of the burden. Had they abstained or used contraception, they will not have become pregnant. Improved access to family planning and reproductive health services will reduce abortion-related death.[25]

The same observation was made at Abakaliki, Ebonyi State where complications of induced abortion claim the lives of our youth.[26] On investigation of maternal mortality in a public teaching hospital in Abakaliki, Ebonyi State abortion related deaths reared its ugly head. [27] We need to put a stop to this unnecessary death by education of our youth, improved moral education and access to reproductive health services.

The sequelae of unsafe abortion are infertility, chronic pelvic pain, ectopic pregnancy and even death.

**Intrauterine adhesion**

The uterus usually has a potential space and the two walls are apposed. It can easily be distended by fluid. The entire inner wall bleeds during menses. However when a recently pregnant uterus is affected by a combination of trauma and infections the two walls are matted together during the healing process. This is called intrauterine adhesion. In this case the quantity of the menstrual flow and duration becomes scanty. Menstrual flow lasts for 2 to 8 days in a normal person. In intrauterine adhesion the flow gradually decreases to one or two days. In some cases it is absent completely. In a study of the causes

of intrauterine adhesion in Enugu, septic abortion was found to be the main contributing factor in nulliparous women who had abortions.[28] This condition causes infertility and repeated miscarriages in our young female population. In a bid to terminate unwanted pregnancy they cause severe complications in the womb.

**Infertility**

Unsafe abortion leads to tubal infections and tubal blockage. In our study on the causes of infertility in Enugu, tubal factor for women and semen abnormality for men are the primary causes. The aetiological factors are preventable. [29] Improved access to reproductive health services will reduce the causes of secondary infertility. Education and improved access to reproductive health services will prevent genital infection and reduce the number of miserable and childless couples.

**Sexually transmitted infections**

Common sexually transmitted infections are gonorrhoea, syphilis, Chlamydia trachomatis, hepatitis B and human immunodeficiency virus.

These infections are still with us as evidenced from our study of antenatal women. [30, 31] A person can get these infections and pregnancy at one sitting. Usually there is a pool of human beings harbouring these infections in a particular population and they serve as spreading agents. It is only when a person in a mutually monogamous relationship sneaks out and has intercourse with one of those harbouring the infections that their partner gets infected. In majority of the cases couples that are mutually monogamous and faithful to each other have no infections. Barrier method of contraception also decreases the chances of getting these infections.

In a study of the female traders in Enugu, we found 16% of them are adolescents and are vulnerable to these infections [32] and 62% do not use barrier method of contraception. Parents are poor sex educators. It is only 28.5% of the respondents that received sex education from their parents. This is worrisome as these sex education are received from the wrong sources. In another study of the sero-prevalence of Chlamydia infection in Enugu, we discovered that the percentage of subjects who admitted to having multiple sexual partners was

high (71.2%) among the students population. [33] Young people continue to be the reservoirs of these infections. Education and access to reproductive health services will control these infections.

**Ectopic pregnancy**

Ectopic pregnancy is when pregnancy occurs outside the lining of the endometrium. It is one of the causes of first trimester bleeding apart from abortion and trophoblastic disease. It contributes to maternal morbidity and mortality. Majority of the time, it leads to loss of one or two of the fallopian tubes. Salpingitis is the culprit in most of the cases. The embryo implants in the tube and grows to the extent of rupture of the fallopian tube.

We studied the patients that presented to UNTH with ectopic pregnancy. Who are these ladies with ectopic pregnancy? They were mainly young single women with previous history of induced abortions and resultant pelvic infections. [34]

**Rape**

This is unlawful sexual intercourse or any other sexual penetration of the vagina, anus, or mouth of another person, with or without force by a sex organ, other body part or foreign object without the consent of the victim.

The result of rape apart from deep psychological damage is pregnancy and infections especially the HIV. What do we do when one is raped and at the risk of pregnancy? Does one allow the pregnancy, abort it or use emergency contraceptives? In our daily practice most people and their parents from experience do not like to carry pregnancy from an armed robber or rapist.

The correct response to rape is to use emergency contraception if one is at risk of pregnancy, take prophylaxis against infections like HIV and receive counselling/rehabilitation.

Emergency contraception should be taken within 72hours of the sexual act or rape. In a study of student population in Enugu many young people are aware of this emergency contraception mainly the postinor-2 but rarely used [12]. Reproductive health services should be available to those seeking to prevent pregnancy from rape or other sexual acts.

**Preconception Care**

Preconception care is described as a specialised form of care for women of reproductive age before pregnancy to detect, treat or counsel them about pre-existing medical and social conditions that may militate against safe motherhood. Just as the churches organise marriage classes before wedding the couple, there is need for preconception care before embarking on obstetric career. The essence is to correct inadequate education and identify any existing illness relevant to pregnancy. This can be integrated into the marriage preparatory classes in our churches.

Preconception care is needed in cases of diabetes mellitus, epilepsy, hypertension, [35] asthma, sickle cell diseases and even for cancer screening. [36] It is a period for medical check up before pregnancy. Any identified disease can then be treated appropriately.

We found out that the practice of the preconception care is almost non-existent in developing countries like Nigeria. We suggest setting up a multi disciplinary clinics for preconception care to decrease the maternal and prenatal mortality from treatable medical conditions.[37] Preconceptional folic acid supplement to prevent neural tubes defect stand out as one of the benefits. In addition anaemia can also be corrected. [38, 39]

Asymptomatic bacteuria, was found to be prevalent in Enugu in women with sickle cell trait. We suggested that women irrespective of their sickle cell status would benefit from routine screening for asymptomatic bacteuria before pregnancy. [40] If any disease is discovered the couple should be on contraceptives during the period of treatment.

**Human Immuno deficiency virus**

Antenatal HIV counselling and testing is one of the strategies to prevent maternal to child transmission of HIV to the newborn child. The essence is to reduce both vertical and horizontal transmission of HIV. Couples are also screened for cancers that are associated with HIV. [41]

Couples that are living with HIV/AIDs should be on barrier method of contraception. Even though both are HIV positive, a new strain of virus can still be exchanged.

Their viral load and CD4 count are checked regularly. Discordant couples should be encouraged disclose their status.

In our study serostatus disclosure was very high to their partners even though some did not disclose. [42] Disclosure is associated with risk of stigma attached to HIV infection. Being HIV positive is associated with more domestic violence.

A study on domestic violence against pregnant Nigeria women in Enugu found that 37.2% had a previous history of abuse, with 13% having been abused in the preceding 12months and 11.0% within the index pregnancy. [43] HIV positive respondents experienced physical violence in the course of index pregnancy six times more than controls; Sexual violence about four times more than controls and were 12 times more likely to be denied sex by their partner compared to control.

Threat of being hurt, deprivation of financial support and denial of communication were the commonest forms of intimate partner violence among HIV positive pregnant women.

HIV positive status predisposes pregnant women to increased intimate violence more of the emotional nature further underlying the enormity of social rejection suffered as a result of HIV infection.[44] These women need proper counselling before pregnancy and access to reproductive health services.

We also noticed a high incidence of unintended pregnancy among HIV positive women. [45]These women were not in optimal health before pregnancy. They should have been on contraceptive and improve their CD4 count, reduce viral load and receive adequate counselling about sex and Prevention of Mother to Child Transmission (PMCT) before embarking on obstetric career.

The sexual behaviour of those that are HIV positive and pregnant is worrisome. This is because they did not receive adequate counselling about sex. They still practice unsafe sex making the control of these infectious difficult in our environment. This is a public health concern. About 69.8% of the women did not know the effect of unprotected sexual intercourse with HIV positive partner. It was noted that majority use condom. [46]

**Teenage Pregnancy**

Teenage unplanned pregnancy is associated with increase maternal and perinatal morbidity and mortality. Young people are not educationally and psychologically prepared to carry pregnancy until the age of 20years. This allows the pelvis to develop adequately and affords the girls time to finish her education. The teenagers are usually advised to abstain from sexual intercourse. At the same time teenagers get sexual messages from the Internet, television movies, magazines and books. This makes abstinence difficult for them. The sequelae of unprotected sexual intercourse and non- use of contraception is unplanned pregnancy with its consequences. Pregnant teenagers are at higher risk than their older counter parts. Proper use of contraceptive services will help reduce teenage pregnancy rate. [47] The consequences of teenage pregnancy include obstructed labour and vesico-vaginal fistula (VVF).

***Obstructed labour***

Labour is said to be obstructed when there is no further progress in the presence of strong regular uterine contractions because of mechanical barrier. Obstructed labour usually occurs in young nulliparous women [48] because the pelvis has not developed fully. The fetal head does not easily enter the pelvis. There is pressure necrosis between the fetal head and the maternal pelvis. This leads to maternal morbidity and mortality. The labour is usually neglected and infected. This is worsened if the fetus is too large [49]. Some of the obstructed labours can be relieved by symphysiotomy [50] in certain settings.

***Vesico vaginal fistula***

This is one of the consequences of obstructed labour. The most obvious result of an obstetric fistula is the loss of urinary or faecal control or both. The constant leaking of urine or faeces or both, results in devastating social, psychological and physical injury in these otherwise healthy young women. [51]

It is only in resource poor environments that one finds a combinations of unplanned pregnancy , obstructed labour and vesico-vaginal fistula.

Vesico-vaginal fistula occurs in our young population and some of them are single. In our study 2.7% of the patients are single. It is still a major problem in

our environment and a reflection of standard of our reproductive health services. [52]

There was a teenager who had vesico-vaginal fistula and conceived again while the VVF was yet to be repaired. We had to combine the repair of the vesico-vaginal fistula with caesarean section. [53] After that we added an omental patch. Very few literature exists on the combined repair of VVF and elective caesarean sections.

**Choriocarcinoma**

This is malignant lesion of the trophoblast. It occurs in a pregnancy state. When one completes her family one should use permanent method of contraception. The next pregnancy can result in trophoblastic disease.

Contraception prevents this cancer. In order to shift from mortality to survival, preventing these cancers should be done in addition to early presentation and follow up .[54]

**Myomectomy**

After major surgeries like myomectomy and preservation of the uterus;a couple is usually advised to wait for at least 3 months to allow healing before pregnancy. Contraception is needed during the period of waiting. Uterine fibroids constitute 9.8% of all gynaecological admission. Postoperative morbidity was noted to be high but there was no mortality. Uterine fibroids mostly managed by myomectomy at laparotomy remains a major public health problem in Enugu Nigeria. [55]

**MULTIPLE CAESAREAN SECTTION**

A baby is normal delivered through the female genital tracts with assistance by a trained midwife or a doctor. However when this is not possible the baby is delivered through caesarean section. This involves passing through the anterior abdominal wall and the womb.

After the surgery the mother is usually counselled to wait for at least one year before attempting to get pregnant. During the waiting period she should be on child spacing method of her choice. However if she conceives earlier it is associated with complications including the risk of repeat caesarean section.

Furthermore when multiple caesarean section is accompanied with severe peritoneal adhesions, placenta praevia and accreta the patient is counselled on a more permanent method of contraception.

We studied clients with multiple caesarean sections. A group of 92 women who had undergone four or more caesarean sections (high order) was compared with another group of 184 women who had three or less of such procedures at the obstetric unit of the University of Nigeria Teaching Hospital Enugu.

There was a total of 1,755 caesarean sections within the study period, out of which 92 (5.24%) were higher order repeat caesarean section. Three women had the 6$^{th}$ caesarean section, while one had her seventh.

Women with four and higher caesarean section were three times more likely to have primary postpartum haemorrhage, to spend more time on the operating table and to receive blood transfusion.

Higher order caesarean section was associated with increased maternal morbidity . Counselling on different methods of contraception during visits to antenatal clinics must be done to limit family size.[16] However this becomes difficult if the previous children were all females. The commonest reason for antenatal ultrasound request is gender determination.[56] One lady cried bitterly on the operating table when she was told that her baby was a female.

**Older women & stoppage of contraception**

There is little attention given to older women. Pregnancy in old age has embarrassing psychological and social consequences. At a time when a woman is supposed to be a grandmother an unplanned pregnancy occurs.

Most old women take chances and abandon contraception altogether. The risk of pregnancy is high. The risk of abnormal baby due to chromosomal abnormality is high. Abortion is requested in the second trimester because often the women mistakes absence of menses for menopause.

In older women anovulation is interchanged with ovulation with possibility of pregnancy. The oldest woman in the world to give birth spontaneously was 57 years and 129 days (Guinness book of records 1994). Older women contribute to request for termination of pregnancy.

Women are advised to continue contraception for one year following their last spontaneous menstrual period if over the age of 50years. Women under the age of 50 years are advised to continue with contraception for 2years following their last period. [1]

It is better to use non-hormonal method to avoid confusion of intermenstrual bleeding or spotting. Copper-bearing IUCDs can be used to breeze into menopause if one does not want to do tubal ligation. Bilateral tubal ligation is one of the methods used to prevent pregnancy in older women that have completed their family.

Menopause occurs 12months after ones last menstrual period and marks the end of menstrual cycle. It occurs between 45 to 55 years. It is a natural process and ends fertility.

**Andropause**

This is associated with low testosterone level. After the age of 30years men experiene gradual decline in their testosterone level. At 50 years 50% of men would experience the symptoms below:

1. low sex drive
2. lack of energy
3. depression

4. increase body fat
5. Hot flushes.
6. Difficult getting erections or sustaining strong erection.

However they can still be responsible for pregnancy till they die.

The commonest contraceptive available are male condom and vasectomy. They are encouraged to continue using contraceptive till they die.

**Conclusion**

Contraception is more than population control issue. It saves life and contributes to reduction of maternal mortality. Public reactions and private acceptance drives the use of contraception. Contraception is better than abortion. Many have died from unplanned pregnancy but not from contraception. Efforts should be made to improve the availability of reproductive health services in our environment.

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