# CONTRACEPTIVE METHOD MIX AND TREND AT THE JOS UNIVERSITY TEACHING HOSPITAL

**Pam VC**
*MBBS, MPH (Leeds), FWACS*

*Department of Obstetrics and Gynaecology*

*Correspondence*
*Department of Obstetrics and Gynaecology, Jos University Teaching Hospital, Jos Nigeria*
*Email: vcpamjnr@yahoo.com*

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## ABSTRACT
*This was a review of the contraceptive trend in Jos University Teaching Hospital (JUTH) North Central Nigeria over an 18-year period, 1985-2002. There were a total of 17,846 clients who used the various methods of contraception. Modern methods of contraception have been accepted in our facility including the permanent forms. These methods were Oral contraceptive pills (OCPs), Male condom, female sterilization, vasectomy, Norplant, the Intrauterine device (IUD) and Injectables. The intrauterine device was used the most by clients (4651) while the least number of the clients (894) used the Norplant. Female sterilization, however, contributed the biggest quota, 26%, to the contraceptive method mix while male condom and Norplant each had the smallest contribution at 6%. Nine men only had vasectomy over the 18-year period.*

## INTRODUCTION
With the dawn of the 21st century, natural resources fell under increasing pressure, threatening public health and development. Water shortages, soil exhaustion, loss of forests, air and water pollution, and degradation of coastlines afflict many areas. As the world's population grows, improving living standards without destroying the environment is a global challenge[1]. Slowing down the population growth could help improve living standards and would buy time to protect natural resources. Indeed, in the long run, to sustain higher living standards, world population size must stabilize. This can be brought about by reduction in the fertility rate that is compatible with the attainment of economic and social goals[1, 2.]

Of all the direct influences on fertility, contraception use is the single most important factor for reproductive health policy makers and program managers, and increases in its prevalence accounted for the largest proportion of fertility declines worldwide including the sub-Saharan region[3-7]

Around the world over 600 million married women are using contraception and in many countries a growing share of unmarried women ages 15 to 24 are sexually active before marriage and increasingly use contraception and in particular condoms[8]. Contraceptive use and fertility rates vary substantially among regions. Fertility levels closely correspond to levels of contraceptive use. In countries where contraception use is uncommon the fertility is high[1,910]. In a few countries of Asia and Latin America, at least three-fourths of married women use a contraceptive method. These levels are equal to those in developed countries. This is the level of contraceptive use generally considered to achieve replacement-level fertility, which is the fertility rate at which each generation has only enough children to replace itself and thus is the level at which the population eventually stops growing. In contrast, in some sub-Saharan African countries fewer than 10% of married women use contraception. Fertility rates range from just 2.3 children per woman in Vietnam to 7.2 in Niger[1].

The low prevalence of contraceptive use in Nigeria and indeed in the sub-Saharan region is due to interplay of many factors: socio-cultural, economic, political, religious and demographic. Continued strong cultural preference for large families, large rural populations relying on subsistence farming and low levels of economic development are contributory[6,11-14]. In addition, continued high rates of infant and child mortality have contributed to high fertility levels, because couples perceive the need for " extra insurance" births to make up for those who die young[11,15,16.] In the past, lack of government commitment to family planning programs in some countries limited access to the range of contraceptive methods and services needed

to meet people's needs. Moreover, some sub-Saharan countries have faced internal conflicts that have made it difficult to provide family planning[15]

In contemporary Nigeria, government's posture on contraception has changed from a lukewarm attitude to a rather positive posture with the enactment of a National policy on population for Development, Unity, Progress and Self Reliance in 1988[2,12]. This radical change was due to the increasing awareness of government that the use of contraception, as a means of regulating family size, was an essential ingredient of socio-economic development and a key element in the population strategies of most developing countries because it addressed important health problems, rather than its direct impact on fertility[17]. In 1990, Nigeria's population was estimated to be 110 million and occupying the 13th place in the world and it was projected to move to the 3rd place by the year 2050AD with a population of over 400 million if no active measures were taken to implement family planning policies [18].

An estimated 105 million married women have an unmet need for family planning- that is, they are sexually active and want to avoid pregnancy, but are not using contraception [1]. The disturbingly high rate of illegally induced abortions among married and unmarried women and the high incidence not only of abandoned children but also the actual killing by various methods of surviving unwanted children, indicates considerable unmet needs for contraception in Nigeria[12, 19,20.] In an adolescent sexuality study in Ibadan, 45% of female respondents reported having at least one pregnancy and overwhelming choice of elective termination despite restrictive abortion laws[18].

Based on statistics about contraceptive prevalence, developing countries as groups are about halfway through the demographic transition from high to low fertility. Levels of contraception use of 75% to 84%, as found in North America and Northern Europe, reflected the completion of the transition. The highest contraceptive prevalence rate found in any country with a population over 3 million is 87% in Hong Kong and 86% in the United Kingdom. Among 30 countries surveyed in sub-Saharan Africa since 1990, contraceptive prevalence varied substantially. In five countries Cape Verde, Kenya, Mauritius, South Africa, and Zimbabwe over one-third of married women used contraception. In seven other countries Chad, Eritea, Guinea, Mali, Mozambique, Niger and Nigeria contraceptive prevalence was 6% or lower[1].

Surveys suggest that parts of Africa have started down the path already taken in other regions[16, 21,22.] Zimbabwe has perhaps the most articulate family planning programme in Africa[12] while significant positive progress in recent fertility transition has been made in Botswana, Swaziland, South Africa and Kenya[11]. Fertility fell by more than 1% per year in more than 51% of sub-Saharan countries with more than one survey since 1990[1].

An increase in modern methods use in particular injectables, female sterilization, oral contraceptives and the intrauterine device (IUD) account for half or more of the increase in total contraceptive use among married women in all countries and account for almost three-fourths of all contraceptive use[4, 7]. On the average worldwide, nearly 9 in every 10 contraceptive uses rely on modern methods while only about 1 in every 10 rely on traditional methods of withdrawal and periodic abstinence.

The specific contraceptive methods that women use vary substantially from country to country and even within one country from region to region. The method mix in a country reflect many factors, including the availability of various contraceptive methods and people's awareness of them, their cost, and where they can be obtained. In addition, personal preferences social norms, gender preferences, women's education, rural or urban residence and perceived acceptability of family planning use affect contraceptive choices[23-26].

Decisions about childbearing and contraceptive use are most likely to meet a person's needs when they reflect individual desires and values, are based on accurate, relevant information and are medically appropriate - that is when they have informed choices. To make informed choices, people need to know about family planning, to have access to a range of methods, and to have support for individual choice from social policies and community norms. Informed choice offers many benefits because people use family planning longer if they choose methods for themselves. Also access to a range of methods makes it easier for people to choose a method they like and to switch methods when they want. People's ability to make informed choices invites a trusting partnership between clients and providers and encourages people to take more responsibility for their own health. Enabling

clients to make informed choices is a key to good-quality family planning services[27 29.]

The aim of this study is to determine the contraceptive method mix in JUTH and identify the trend of use of the different methods among clients of the Family Planning Unit of the Department of Obstetrics and Gynaecology, JUTH.

## MATERIALS AND METHODS

This was a retrospective study at the Jos University Teaching Hospital, Jos Nigeria, from 1985 to 2002. The total number of each of the method used by the clients for each year was retrieved from the record department of the Family Planning Unit of the hospital and analyzed.

Statistical analysis was by simple percentages.

## RESULT

There were a total of 17,846 clients who used the different contraceptive methods. The methods were oral contraceptives, male condom, female sterilization, vasectomy, Norplant, Injectables (Noristerat and Depo provera) and intrauterine contraceptive device (IUD).

A total of 4651 clients used the IUD. This was the method used by the highest number of clients while norplant, was used by the least number (894) of clients. However, female sterilization contributed the biggest percentage with 26% contribution while the male condom and norplant shared the least contribution to the contraceptive mix.

Table 1 shows the number of new clients over the period of the study. For graphic representation the 18 years over which the study covered was divided into 6 phases of three years each.

Table 2 and 3 highlight the trends of the contraceptive method mix and their various percentage contributions. Oral contraceptive had 19.6% in the first three years. This increased to 27.6% and then 29.7% during the two subsequent 3-year periods and then gradually decreased.

Male condom at the outset made its maximal contribution of 23.3% to the total contraceptive mix. This sharply dropped to 11.4% during the subsequent 3 years and made very insignificant contributions thereafter.

The injectables had a zigzag picture: they contributed 7.6% at the beginning, increased to 16.2% and dropped to 11.5% and then increased over time through 15.1% to 23.8%.

The intrauterine device made its maximum contribution to the contraceptive mix in the first 3-year period of the study at 37.8%. This gradually decreased over the next phases but resurged again in the last two phases.

The contribution of norplant to the contraceptive mix started at its minimum of 2.6% and steadily increased to reach its peak contribution in the last phase of the study at 8.6%.

The contribution of female sterilization to the study was an abysmal 9.1% in the first phase. This increased steadily over time to peak at 42.6%. It was consistently the most dominant method in the last four phases of the study.

During the penultimate phase (1997-1999), there was a relative decline in the contribution of female sterilization (42.6% to 23.8%) and norplant (7.3% - 5.5%) while oral contraceptives, male condom, IUD and the injectables showed a relative increased contribution to the contraceptive mix.

There were 9 men who had vasectomy.

**Table 1: New acceptors of contraceptives**

| YEAR | Number of clients |
|---|---|
| 1985-1987 | 4822 |
| 1988-1990 | 5396 |
| 1991-1993 | 3109 |
| 1994-1996 | 1610 |
| 1997-1999 | 1580 |
| 2000-2002 | 1329 |
| Total | 17,846 |

**Table 2: Number of clients that used the various methods of contraceptives**

| Year | Oral Contraceptive | Male condom | IUD | Female sterilization | Norplant | Injectable |
|---|---|---|---|---|---|---|
| 85-87 | 927 | 1106 | 1793 | 429 | 124 | 359 |
| 88-90 | 1330 | 551 | 1269 | 710 | 180 | 783 |
| 91-93 | 924 | 3 | 589 | 1009 | 225 | 358 |
| 94-96 | 462 | 4 | 300 | 932 | 159 | 330 |
| 97-99 | 385 | 14 | 379 | 395 | 92 | 396 |
| 00-02 | 157 | 20 | 321 | 402 | 114 | 315 |
| Total | 4185 | 1698 | 4651 | 3877 | 894 | 2541 |

**Table 3: Percentage contribution of each method**

| Year | Oral Contraceptive | Male Condom | IUCD | BTL | Norplant | Injectable | Total |
|---|---|---|---|---|---|---|---|
| 85-87 | 19.6 | 23.3 | 37.8 | 9.1 | 2.6 | 7.6 | 100.0 |
| 88-90 | 27.6 | 11.4 | 26.3 | 14.7 | 3.7 | 16.3 | 100.0 |
| 91-93 | 29.3 | 0.1 | 19.0 | 32.5 | 7.2 | 11.5 | 100.0 |
| 94-96 | 21.1 | 0. 2 | 13.7 | 42.6 | 7.3 | 15.1 | 100.0 |
| 97-99 | 23.2 | 0.8 | 22.8 | 23.8 | 5.5 | 23.9 | 100.0 |
| 00-02 | 11.8 | 1.5 | 24.2 | 30.3 | 8.6 | 23.6 | 100.0 |

Table 4: Total contribution of each method over the study period.

| Method | Percentage |
|---|---|
| Oral contraceptive | 22% |
| Male condom | 6% |
| Female sterilization | 26% |
| Intrauterine device | 24% |
| Norplant | 6% |
| Injectables | 16% |
| Total | 100 |

## DISCUSSION:

The Jos University Teaching Hospital (JUTH) provided all the range of family planning methods. This study looked at the trend of the contraceptive mix in the first 18 years since its inception.

Female sterilization is the most popular method worldwide. It contributed the biggest quota to the contraceptive mix in this study. This was due to a number of factors. The Association for Voluntary Surgical contraception (AVSC) now EngerderHealth, New York, had invested a lot to address service costs, shortage of skilled manpower, inadequate facilities at the family planning unit. It also organized an international conference in Jos, to create awareness from 19-22 October, 1987 with the theme" voluntary surgical contraception, Quality Assurance and Management in Nigeria". The net effect of these activities is that female sterilization was provided at a minimal cost and there was an increase in the number of skilled manpower (surgeons, nurses, counselors, managers) which played a central role in assuring the quality of sterilization services and reducing the waiting time for women to get sterilized and prevented unintended pregnancies within that 'window period'. Also, as the quality of the services for sterilization got better, more women were satisfied with the method, which needed no supplies or further action, and there were no side effects once the procedure was performed. Such women helped to popularize the method and demystified any earlier misconceptions. Again, as more women became educated in Nigeria, there was transformation of attitudes leading to questioning of traditional beliefs and practices, such as those supporting high fertility[24, 25]. Hence, more women were having their desired family size and making up their minds earlier to have a permanent method of contraception. Women with more education usually have higher aspiration for themselves, and education can open the door to greater achievement and personal growth and lessen the emphasis on having children as life's central reward. Women who have more education usually have more control over resources and more autonomy in decision-making[23, 24] and less likely preference for male children[26].

The male condom was the 2nd most popular contraceptive method in the first 3 years of this study with a 23.3% contribution to the contraceptive mix. However, it subsequently became the least popular amongst the various methods contributing less than 1% in most instances. The enthusiasm that greeted the introduction of this method probably explained why the greatest number of acceptors opted for this method at the beginning of the study, especially with the prevailing 'suspicion' of the longer-acting and permanent methods as it pertained to return to fertility. This suspicion explained why female sterilization and norplant made their least contributions to the contraceptive mix at the beginning of the study: 9.1% and 2.6% respectively. The average contribution of male condom to the total contraceptive mix was 6%. This agreed with other results. In developing countries, the prevalence of condom use among married women of reproductive age is between 2-6% in about half of the countries surveyed and below 2% in the other half[30]. However, globally the percentage of married couples using condoms for family planning appears to have declined slightly during the past decade[31] and condoms rank near the bottom among contraceptive methods used by married couples[32]. These two facts are reflected by the result of this study with the least total contribution at 6% and a

declining quota of the total contraceptive trend over time from 23.3% to 0.1%. A number of factors are adduced for this trend. While the family planning unit is open to all regardless of marital status or sex, its greatest clientele was made up of married women especially those referred from the postnatal clinic after the puerperium. However, few couples that practice family planning use condoms as their contraceptive of choice. Most of the need for condoms is among sexually active unmarried youth[30] who did not constitute a sizeable percentage in this clinic. Also because the condom is the only contraceptive method that clearly prevents transmission of STIs, the AIDS epidemic has brought urgency and new attention to issues of condom use involving trust, negotiation and communication between sex partners[33]. For many people, especially married women, asking an intimate partner to use a condom suggest a lack of trust[34, 35] and particularly in a long term relationship, requesting to use condoms could imply distrust rather than caring[36-38.] Hence the condom has suffered from an image problem and is associated with illicit sex, infidelity and immoral behaviour[38, 39.] In West Africa, many men believe that condoms use is appropriate with their girl friends or casual partners but not with their wives[35]. Finally, because much of the need for condoms is to prevent HIV/AIDS and others STIs among unmarried people, particularly the youth, its actual use might have increased in Jos as part of the AIDS-prevention campaigns. However, JUTH which was arguably the only source of condoms as at the beginning of the study, lost its central position as a supplier to other chemists, pharmacies, hotels, bar and grocery stores where condoms can now be easily obtained without filling out a prescription. This explained why condom use in JUTH sharply fell in the later part of the study with intensification of the campaigns against HIV/AIDS even though its total utilization increased.

Over the 40 years since oral contraceptives (OCPs) were first marketed, they have symbolized modern contraception and have remained the most widely used hormonal method worldwide. They trail only voluntary sterilization and IUDs in worldwide use among married women[40.] This was confirmed in this study where it contributed 22% of the total contraceptive mix trailing female sterilization and the intrauterine device, which contributed 26% and 24% respectively. More clients used the pill in this study than the other hormonal methods (Injectables and Norplant) put together. However, in the last phase of the study, the injectables overtook the oral contraceptive pills, which might indicate changing trends in contraceptive preference that remains to be seen at the facility.

The intrauterine device made a debut at its maximum contribution of 37.8% and gradually diminished. The initial 'rush' was associated with the subsidy provided for this method at the outset. With the introduction of a token fee, however, the number of clients waned. Together, with oral contraceptives, male condom and injectables, there was a slight upsurge in its contribution during the 1997-99 part of the study. This was explained by incessant industrial actions embarked by the Resident Doctors and therefore methods like sterilization and Norplant that were mostly carried out by the doctors were performed on a lowered scale. This reflected in an increase in the other methods that did not require the expertise of the doctors. Indeed, with the stabilization of services in the last period, female sterilization and Norplant insertion recovered the lost grounds, with female sterilization increasing by a margin of 6.5% (from 23.8% to 30.3%).

Of the other modern methods, Norplant was the only one that made significant contribution at an overall 6%. It commenced at a modest 2.6% increasing gradually to reach 8.6% during the last phase of the study. This was most probably due to the repeated trainings in Norplant insertion in the facility. This resulted in the expansion and improvement of the quality of service that led to improved clients' satisfaction over time.

There were 9 men who had vasectomy in this study. Male sterilization is virtually nonexistent in surveyed countries of sub-Saharan Africa. Less than 1% of women in developing countries rely on it for contraceptive protection[1]. This is due to inadequate information, cultural barriers, fears, misconceptions and male chauvinism[41].

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