***Original Research Article***

**Prevalence, Pattern and Determinants of Contraceptive use Among Pregnant Women Attending Antenatal Clinic at the National Obstetric Fistula Centre, Abakaliki, Ebonyi State**

**ABSTRACT**

**Introduction**

Africa has the fastest growing population in the world, which is of great concern because of its adverse impact on social stability. This population surge is partly due to the high rate of unmet need of contraception.

**Aim**

The aim of this study was to assess the prevalence, pattern and determinant of contraceptive use among pregnant women attending antenatal clinic at the National Obstetric Fistula Centre (NOFIC), Abakaliki, Nigeria.

**Study design**

It was a descriptive cross-sectional study

**Place and Duration of Study**

This study was conducted at NOFIC, Abakaliki between February and April 2024

**Methods**

Three hundred (300) pregnant women attending antenatal care at NOFIC, Abakaliki were interviewed on contraceptive usage prior to their current pregnancy, using Interviewer-administered questionnaire to collect relevant data; which were analyzed using IBM SPSS version 20.

**Results**

Among the 300 participants in the study, women at 26-30 years were the largest group 111 (37%). Primigravida accounted for 50% (150) of the participants; 168 (56%) had tertiary education and 195 (98.3%) were married. Most of the participants 257 (85.7%) knew about contraception. However, the prevalence of contraceptive use was 42.7% (128/300); creating 57.3% (172/300) unmet need. Male condom was the most popular method 83 (27.7%). Complications occurred in 10 (7.8%) of the participants who had used contraception before; the commonest being prolonged vaginal bleeding. The commonest reason for not using contraception was not considering it necessary 84 (48.8%). More than half of the participants 162 (54%) would have loved to use contraception but did not have access to it; while 10 (3.3%) participants who had access never used it. Of those who were aware of contraception, 86 (33.5%) did not have their partners’ support for its use, with the commonest reason being the fear of side effects 28 (32.6%).

**Conclusion:**  There is still high level of unmet need of contraception in Nigeria. Efforts should be intensified in education and provision of contraception.

**Keywords:** Contraception, pattern, prevalence, determinants, pregnant women

INTRODUCTION

The world is facing a contraception crisis, with unintended pregnancies posing a significant threat to maternal, child, and family health, as well as economic stability [1]. Alarmingly, about 40% of pregnancies globally are unplanned and, majority (84%) of these, occur among women who desperately need but lack access to reliable contraception. This underscores the urgent need for improved reproductive healthcare services [1].

Although various contraceptive options exist, many countries face significant barriers in accessing these products. Even in nations where contraception is freely available, numerous challenges hinder their effective use [1, 2]. Personal relationships and family dynamics play a substantial role in contraceptive decisions, with women’s choices often shaped by their partners, relatives, and societal pressures [1]. Thus, improving access to contraception will depend, to a large extent, on empowering women with the ability to independently decide on contraceptive options as well as availability of safe and effective contraception [2, 3].

In many developing nations, the adoption of modern contraceptive methods is hindered by several key challenges [3]. These include lack of education about available options, insufficient access to contraceptive supplies, prohibitive costs and inadequate healthcare services [3, 4]. Furthermore, fears about potential side effects, whether real or perceived, often cause individuals to abandon these methods, underscoring the need for improved awareness, access and support [3].

Contraceptive use is most prevalent among married or partnered women of reproductive age worldwide, with varying rates across developed and developing countries [5]. Despite the progress made in this regard, over 10% of married women globally have unmet need for contraception. If this is addressed, numerous unintended pregnancies, unsafe abortions and unplanned birth can be prevented [5].

While contraceptive use among married women has increased across most regions of the world, Sub-Sahara Africa trails behind, with Nigeria reporting a notably low usage rate of just 15% among married women [5-8]. Despite the projection to boost contraceptive prevalence from 15% in 2013 to 36% by 2018, the current rate remains low at 17% - one of the continent’s lowest [9-11]. This is in spite of relatively high awareness among women of reproductive age (54%) attending antenatal care (ANC) [8]. The disparity between awareness and usage highlights the need for targeted interventions to address barriers in order to increase contraceptive use in Nigeria [8]; thus the need for this study.

**Aim**

The aim of this study was to determine the prevalence, pattern and determinants of contraceptive use among pregnant women attending antenatal clinic (ANC) at the National Obstetric Fistula Centre, (NOFIC), Abakaliki, Ebonyi State Nigeria. This might provide valuable insights for policymakers and programme managers to develop effective strategies in achieving future targets in contraception, ultimately contributing to improved reproductive health outcomes.

**Objective:** The objectives of the study were to:

* Assess awareness of contraception
* Determine the prevalence of contraceptive use and the unmet need for contraception
* Identify patterns of contraceptive use
* Examine the factors influencing contraceptive use

**METHODS**

**Study design:** This was a cross-sectional study that was conducted among 300 pregnant women attending ANC at NOFIC, Abakaliki, Ebonyi State, Nigeria, between February and April 2024. The ANC at the facility runs daily from Monday to Friday every working day, with the average attendance at each clinic being 95 clients. The sample size for this study was spread over 12 weeks from February till April 2024. Simple random sampling was used in selecting respondents on every clinic day till the allotted sample proportion for the day was met. To achieve this, 600 pieces of paper were prepared with “Yes” written on 300 and “No” written on the remaining 300 pieces of paper. These pieces of paper were wrapped to conceal what was written on them and put in a big brown envelope. Each participant, after proper counselling on the study and obtaining informed consent, picked a piece of paper from the pool; opened it and showed what was written on it. Those who picked “yes” were recruited into the study while those who picked “No” were excluded. The paper picked was not replaced into the envelope. This process was repeated until all the data sample size was reached. A semi-structured, interviewer-administered questionnaire was used to determine the participants’ socio-demographic characteristics, parity, awareness, prevalence and determinants of contraceptive use.

The outcome variables were the previous use of contraception, the type of contraception, the side effects previously experienced and the tendency to use contraception in future. A midwife was trained on how to use the questionnaire which has been pretested at a primary health centre before the actual data collection. The generated data was analyzed with IBM-SPSS software (version 20, Chicago II, USA). Quantitative variables were summarized using appropriate measures of central tendency, while categorical variables were summarized using frequencies and proportions. Pearson’s chi-square test and Fisher’s exact test were used in assessing for associations between the dependent and independent variables. All levels of significance were set at P<0.05.

**Ethical approval**

Ethical approval for the study was obtained from the Research and Ethics Committee of National Obstetric Fistula Centre, Abakaliki. Participants in this study were duly informed of the purpose of the study, the benefits and the risks; and were assured of confidentiality. Informed consent was obtained from all participants.

**RESULTS**

**Socio-demographic characteristics of the participants**

As shown on table 1, a total of 300 pregnant women who gave consent to participate in the study were interviewed. Majority 111 (37.0%) of the 300 participants were aged 26-30 years while those between the ages 36 and 40 years were the least 16 (5.3%). In terms of parity, primigravidas formed the largest group of women 150 (50%) while grandmultiparas were the least 7 (2.3%). More than three-quarters of the participants 226 (75.3%) had tertiary and postgraduate education, with only 5 (1.7%) participants having primary education only. Almost all the participants 295 (98.3%) were married. With respect to spouse occupation, businessmen formed the largest group 109 (36.3) while farmers 10 (3.3) were the least.

**TABLE 1**

Socio-demographic characteristics of the participants (n=300)

|  |  |
| --- | --- |
| Variables | Frequency (%) |
| **Age groups (years)**  21-25  26-30  31-35  36-40 | 85 (28.3)  111 (37.0)  88 (29.3)  16 (5.3) |
| **Gravidity**  Primigravida  Secundigravida  Multigravida  Grandmultipara | 150 (50)  76 (25.3)  67 (22.3)  7 (2.3) |
| **Educational status**  Primary  Secondary  Tertiary  Postgraduate | 5 (1.7)  69 (23.0)  168 (56.0)  58 (19.3) |
| **Marital status**  Married  Single | 295 (98.3)  5 (1.7) |
| **Husband’s occupation**  Business men  Professional  Civil servants  Farmers  No job  Others | 109 (36.3)  47 (15.7)  82 (27.3)  10 (3.3)  11 (3.7)  41 (13.7) |

**Awareness of Contraception by the Participants**

As shown in table 2, majority of the participants 257 (85.7%) had heard about, at least, one form of contraception. Their sources of information included hospital 112 (37.3%), schools 65 (21.7%), social media 27 (9.0%), friends 26 (8.7%), multiple sources 19 (6.4%) and reading books 8 (2.6%) while 43 (14.3%) were not aware. The commonest contraceptive known by the participants was male condom 57 (19.0%) while the least known was intrauterine contraceptive device (IUCD) 2 (0.7%). Some of the participants 42 (14.0%) knew more than one form of contraception; while 81 (27.0%) knew all the types available. Three (3) of the participants (1.1%) couldn’t remember the forms of contraception they had heard about.

**TABLE 2.**

Awareness of Contraception by the Participants.

|  |  |
| --- | --- |
| Variables | Frequency (%) |
| **Heard about contraception?**  Yes  No | 257 (85.7)  43 (14.3) |
| **Sources of information**  Hospital  School  Social media platform  Friends  Books  Multiple sources  None | 112 (37.3)  65 (21.7)  27 (9.0)  26 (8.7)  8 (2.6)  19 (6.4)  43 (14.3) |
| **Types of contraception known**  **Barrier**  Male condom  Female condom  **Hormonal**  Injectable  Oral pill  Implants  **Intrauterine device**  IUCD  **Combination**  Male condom and oral pills  Male condoms, oral pills and implant  Oral pills and IUCD  IUCD and implant  All forms of contraception  Can’t remember any of the forms | 57 (19%)  9 (3.0)  31(10.3)  18 (6.0)  14 (4.7)  2 (0.7)  11 (3.7)  17 (5.7)  10 (3.3)  4 (1.2)  81(27.0)  3 (1.1) |

**Prevalence and Pattern of Contraceptive use**

In table 3, the prevalence of contraceptive use in this study was 42.7% (128/300). Out of these, male condom was the commonest contraception used 83 (27.7%) while implant was the least 4 (1.3%). Nine (9) participants (3%) had used more than one form of contraception. Among the participants who used contraception, only 10 (7.8%) had complication. Amenorrhoea 2 (20%) and menorrhagia 8 (80%) were the two complications reported.

**TABLE 3**

Prevalence and Pattern of Contraceptive Use

|  |  |
| --- | --- |
| Variable | Frequency (%) |
| **Usage of contraception**  Yes  No | 128 (42.7)  172 (57.3) |
| **Types of contraceptives used**  Male condom  Oral pills  Injectable  Implants  Female condom  Male condom and implant  Male condom and oral pills  Never used contraception | 83 (27.7)  20 (6.7)  6 (2.0)  4 (1.3)  3 (1.0)  6 (2.0)  3 (1.0)  172 (57.3) |
| **Complications from the use of contraception**  Yes  No | 10 (7.8)  118 (92.2) |
| **Type of complications**  Amenorrhoea  Prolonged bleeding | 2 (20.0)  8 (80.0) |

**Determinants of Contraceptive use Among the Participants**

Table 4 shows determinants of contraceptive use. Among the participants, 172 (57.3%) had never used any form of contraception, with the commonest reason being that it was not necessary 84 (48.8%). About a quarter of them 41 (23.8%) were not aware while 17 (9.9%) did not use because they had not completed their family size. Other reasons included: personal reasons (not disclosed) 12 (6.9%), rumours of side effects 9 (5.3%), no reason 7 (4.1%) and dislike for contraception 2 (1.2%). More than half of the participants 162 (54%) would have loved to use contraception but did not have access while 10 (3.3%) had access but were not using it. So, the unmet need for contraception in this study was 57.3% (172/300).

**TABLE 4:** Determinants of Contraceptive use Among the Participants

|  |  |
| --- | --- |
| **Variables** | **Frequency (%)** |
| **Usage of contraception**  Yes  No | 128 (42.7)  172 (57.3) |
| **Reasons for not using contraceptives**  Not necessary  Not aware  Yet to complete family size  Personal reasons  Rumours of side effects  No reason  Did not like it | 84(48.8)  41 (23.8)  17 (9.9)  12 (6.9)  9 (5.3)  7 (4.1)  2 (1.2) |
| **Access and usage of contraception**  Access to contraception and used  Access to contraception and not used  No access to contraception but want to use | 128 (42.7)  10 (3.3)  162 (54.0) |

**Contraceptive Awareness, Usage and Challenges**

In table 5, out of the 257 participants who had heard about contraception, 138 (53.7%) had access while 119 (46.3%) did not. The difference was not statistically significant (P= 0.39). Among those who knew about contraception, about two-thirds 171 (66.5%) had the support of their husbands to use contraceptive if they wanted to, while the remaining one-third 86 (33.5%) of them did not. The difference was statistically significant (P<0.005). Among those who were not aware of contraceptives, 10 (23.3%) were optimistic of their husband’s support after they were duly educated on it while 33 (76.7%) did not show such optimism. This was also statistically significant (P <0.005).

The reason given by those who wanted to use contraception but were not supported by their husbands (table 6) included being married 14 (16.3%); side effects 28 (32.6%); husband’s dislike for contraception 26 (30.2%) and religious reasons 2 (2.3%)]. Few of the women 16 (18.6%) gave no specific reason why their husband did no support them using contraception.

**Table 5: Contraceptive Awareness, Usage, Challenges /** Reasons for no Spousal Support

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Variables** | **Frequency (%)** | **Chi-Square** | **P-Value** | |
| **Awareness + access to contraception**  Yes  No | 138 (53.7)  119 (46.3) | 3.90 | 0.39 | |
| **Awareness + spousal support for contraception**  Yes  No | 171 (66.5)  86 (33.5) | 17.44 | 0.000 | |
| **No awareness + assurance of spousal support for contraception**  Yes  No | 10 (23.3)  33 (76.7) | 19.31 | 0.000 | |
| **Reason for no spousal support**  In a married relationship  No reason  Side effects  Husband’s dislike  Religion | 14(16.3)  16 (18.6)  28 (32.6)  26 (30.2)  2 (2.3) | 23.410 | | 0.004 |

Table 5b: Reasons for no Spousal Support for Contraceptive use

|  |  |  |  |
| --- | --- | --- | --- |
| **Variables** | **Frequency (%)** | **Chi-Square** | **P-value** |
| In a married relationship  No reason  Side effects  Husband’s dislike  Religion | 14(16.3)  16 (18.6)  28 (32.6)  26 (30.2)  2 (2.3) | 23.410 | 0.004 |

**DISCUSSION**

Despite cultural and geographical differences, factors influencing contraceptive choices, adoption, and usage show striking similarities worldwide. Key determinants of contraceptive use include: societal views on motherhood, pregnancy risks and consequences, perceived health risks and side effects [1][3]. Globally, contraceptive prevalence has risen significantly in recent years [1]. Research suggests that the antenatal period presents a unique opportunity to encourage women to adopt postpartum contraception better than any other period [3].

Majority of the participants in this study (85.7%) were aware of contraception. This may be attributed to the education level of the study population, with majority having tertiary education. This finding was similar to the studies done by Ossai et al, Mhina and Murugesan et al where 83.5%, 92.9% and 97% respectively were aware of contraception [3][5][9]. Other similar studies show high contraceptive awareness among participants studied [3-6][8].Also, from the Nigeria Demographic and Health Survey (NDHS) 2013, majority of the currently married men (97.0%) and women (84.6%) were aware of, at least, one form of contraception [6][10][11]. This may be attributed to the increasing awareness of contraception created over the radios, televisions, schools, books, social media amongst others. Most participants in this study (37.3%) heard about contraception from the hospital; followed by school (21.7%), just as in other similar studies [12-17]. However, in the study done in Abakaliki by Ossai et al (2019), the major source of participants’ information was television [5]. The difference between Ossai’s study and this one might be due to the population studied. While Ossai’s study was secondary school students, the current study involved pregnant women in hospital.

From this study, the commonest known single form of contraception was male condom (19%); followed by injectable (10.3%). However, 27.0% of the participants, who had knowledge of contraception, knew all forms of contraception. This finding was similar to the study by Murugesan et al where 93% of the participants were aware of condom as a form of contraception [3]. However, in another study, the commonest contraceptive used was injectable (55.3%); followed by oral pills, with none of the participants using condom [8]. There was poor knowledge on the use of intrauterine contraceptive devices (IUCD) in this study, as only 0.7% of the participants had knowledge of it. This could be due to invasive nature and complexity of the procedure involved in its insertion. This was contrary to what was found in Ethiopia where 36% had good knowledge of IUCD [4].

The prevalence of contraceptive use from this study was 42.7%. This is smaller than the prevalence obtained from a study done by Azees et al in Kebbi State, Nigeria (59.4%) [8]but similar to the prevalence obtained in a study by Mekonnen et al in Gondar city Northwest Ethiopia (48.9%) [18]. In the analysis of National Demographic Data of 2013, done by Ononokpono et al, the prevalence of contraceptive use had regional variations: 21.3% in North Central; 15.4% in North East, 8.8% in North West, 18.1% in South East, 25% in South-south to 38.7% in South West [12]. The disparity between this study and that of NDH may be due to the difference in the population studied. While the current study was hospital based, with enlightened and educated population, that of the national demographic data was community-based, with mixture of both enlightened and non-enlightened population in different proportions. This supports the fact that education and knowledge of contraception help improve contraceptive use [2].

The most commonly used contraceptive method from this study was male condom (37.7%), followed by oral pills (6.7%). This was possibly due to the fear of side effects of other forms of contraception, as reportedly expressed by the husbands of the women who participated in the study. This rate of male condom use was higher than that of SRM Medical College where only 16% of the studied population used male condom. This might be related to better understanding of other forms of contraception by the participants in their study. However, the uptake of oral pills (6%) was similar [3]. In contrast to this study, the commonest used contraceptive method in the study done in Kebbi State was Injectable (55.8%), followed by oral pills, as seen in other studies [8]. This might not be unconnected with the covert use of contraception by women in that region.

Of those who had used contraception in this study, only 7.8% had any form of complication. This might be due to the fact that condom was the most commonly used method which is not known for the usual complications associated with hormonal method. This low complication rate was at variance with the fear of complications being entertained by women and their spouses. The two complications reported were prolonged bleeding (80%) and amenorrhoea (20%), all from women who used injectable and implant. This was similar to the findings in a similar meta-analysis where injectable was mostly associated with heavy and prolonged bleeding [2].

More than half (57.3%) of the participants in this study had never used any form of contraception due to various reasons, constituting a high rate of unmet need for contraception. While 48.8% of these women never considered it necessary, about 23.8% were not aware of any form of contraception. Other reasons included the need to have more children (9.9%) and fear of side effects (5.3%). These were similar to the reasons documented in another study for not using contraception [8].This is comparable to the study done in Ilesha, Southwest Nigeria, where the prevalence of unmet need for contraception was 58.2% [19].

From this study, women who had the support of their spouses to use contraceptives made up 66.5% of those who knew about contraception. This was possibly due to the fact that majority of the women had enlightened husbands. This finding was similar to the study done in Kebbi where only 17.3% of the studied population had objections to use of contraceptives by their spouses [8].It was however, at variance to a study done in Port Harcourt where only 31.5% of the participants had spousal support to use contraceptive [13]. Among those who were not aware of contraception, only 23.3% were confident of their spousal support to use contraception while 76.7% did not demonstrate such confidence, citing reasons such as: side effects (10.9%), spousal aversion for contraception (10.1%), being married (5.4%) and religion (0.8%). This was similar to the study in Kebbi, Port Harcourt and in North-west region of Nigeria [8][12][14]. These reasons necessitate the need for more education for couples on contraception, its benefits and side effects.

CONCLUSION

This study highlights the significant relationship between educational attainment and contraceptive use. The findings underscore the importance of promoting girl child education as a strategic approach to enhancing reproductive health outcomes and increasing contraceptive practices/use. It also emphasizes the need for further sensitization on the benefits of contraception as well as bridging the gaps in availability and accessibility.

Limitations

The study was hospital-based, which could have affected the population sampled and therefore might not be representative of what is obtainable in the general population. Therefore, replicating the study in communities will be desirable

Being a single centre study, the findings may not be generalizable. Conducting multi-centre study may help in generalization of the findings

Not involving their husbands directly in the study might have left some of the women guessing their husbands’ disposition to contraception. Involving husbands in similar studies in the future will reduce the need for the women to guess their husband's disposition to contraception

**Disclaimer (Artificial intelligence)**

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc.) and text-to-image generators have been used during the writing or editing of this manuscript.

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