

A Three-year Review of Uptake of Injectables and Implants in Selected Facility in North Central, Nigeria: Analysis of Contraceptive Use Trends (2022–2024)

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Abstract

Background: Modern contraceptive use has risen globally, with long-acting reversible contraceptives (LARC) like injectables and implants providing effective, long-term pregnancy prevention. Given the significant increase in contraceptive use in recent decades, it would not be surprising if the types of methods being used also changed influenced. This study seeks to assess trends in implant and injectable use at National Hospital Abuja, showing significant changes in adoption patterns.

Materials and method: A retrospective descriptive cross-sectional study design was employed, analysing 919 client records from the family planning unit of the National Hospital Abuja over 3 years, from 01 January 2022 to 31 December 2024. Data were extracted from their records and imputed into a preformed proforma. The data set was cleaned and analysed using the statistical product and service solutions (SPSS) version 26.0 software, with results summarized using descriptive statistics (proportions, means, and standard deviations). Inferential statistics (Chi-square and t-tests) were applied, with p-values < 0.05 considered statistically significant.

Results: Findings show a decline in total contraceptive users from 333 in 2023 to 280 in 2024, with injectables experiencing a more significant drop (-21.9%) compared to implants (-5.7%). Percentage distribution indicates a gradual shift in preference, as implant usage increased from 35.6% in 2022 to 41.4% in 2024, while injectables declined from 64.4% to 58.6%. Inferential analysis revealed a statistically significant difference in mean usage between the two methods across all years ($p < 0.05$), though the gap narrowed in 2024.

Conclusion: The analysis of contraceptive usage between 2022 and 2024 reveals significant trends in the adoption of implants and injectables: a decline in total contraceptive users and a shift in user preferences. While injectables remain the preferred choice, implants have steadily gained traction. These trends provide insights into evolving contraceptive choices and present opportunities for targeted interventions in public health planning.

INTRODUCTION

Over the past half-century, sexual and reproductive behaviours have undergone significant changes, particularly in developing countries, where family sizes have decreased and modern contraceptive use has surged.^[1] Preventing unintended pregnancy is of public health importance, and increasing access to long-acting reversible contraception is a key recommended strategy to achieve this goal.^[1,2]

Long-acting reversible contraceptives (LARC) such as injectables and implants are birth control methods used in the long-term prevention of unintended pregnancy i.e. that do not have to be used or applied more than once a cycle or once a month.^[2,5] These methods are the most effective reversible contraception options, offering additional benefits such as longevity, convenience, high user satisfaction, and cost-effectiveness.^[3,4] Compared to other user-dependent methods that increase the risk of method

failure due to non-compliance, LARC methods align 'typical use' failure rates more closely with 'perfect use' failure rates.^[4]

Given the significant increase in contraceptive use in recent decades, it would not be surprising if the types of methods being used also changed influenced by factors such as accessibility, cost, and awareness.^[1, 5]

Globally, 6% of women using modern contraception use injectables, while 1% use implants.^[5,6] Injectables are the predominant contraceptive method used in sub-Saharan Africa and account for 43% of modern contraceptive methods used.^[6,7] Albeit implants are the most effective of any reversible contraceptive method and have other benefits, including convenience, and long duration of action, they have been underutilised in some family planning programs, largely because of high commodity cost.^[4, 8-10] However, in Nigeria, LARC as with some family planning services, has been subsidized by government and donor agencies to promote uptake significantly reducing the commodity cost for end-users who pay mostly out of pocket.^[11,12]

This review highlights the uptake of contraceptive injectables and implants over 3 years.

AIM

To assess the usage trend of injectables and implants at the National Hospital Abuja between January 1, 2022, and December 31, 2024.

MATERIALS AND METHODS

Study Design and Study Area: This retrospective descriptive cross-sectional study was conducted at the family planning clinic of the National Hospital Abuja, a 500-bed tertiary health facility serving the Federal Capital Territory (FCT) and neighbouring North Central states of Nigeria.

Study Population: Women of reproductive age (15-49 years) who assessed family planning services at family planning clinic of the National Hospital Abuja in the period under review.

Data Collection: The study reviewed records of 919 clients who accessed implant and/or injectable contraceptives at the family planning clinic between January 1, 2022, and December 31, 2024. Data were extracted from medical records using a structured proforma.

Data Analysis: Data were cleaned and entered into Microsoft Excel before analysis using the Statistical Product and Service Solutions (SPSS) version 26.0. Descriptive statistics employed proportions, means, and standard deviations. Inferential statistics were done using Chi-square test and t-test, with statistical significance set at p-value < 0.05.

RESULTS

Table 1: Annual distribution of contraceptive usage

Year	Implant	Injectable	Total
2022	109	197	306
2023	123	210	333
2024	116	164	280
TOTAL	348	571	919

Table 1 shows the annual breakdown of contraceptive usage between 2022 and 2024. Between 2022 and 2023, the total number of contraceptive users increased slightly from 306 to 333. However, in 2024, total usage dropped significantly to 280,

Table 2: Annual Percentage distribution of contraceptive usage

Year	Implant (%)	Injectable (%)
2022	35.6	64.4
2023	36.9	63.1
2024	41.4	58.6

Table 2 shows the annual percentage distribution of contraceptive methods. Injectable use declined from 64.4% in 2022 to 58.6% in 2024, while implant use rose from 35.6% to 41.4%.

Table 3: Annual Percentage change in contraceptive usage

Year	Implant (%)	Injectable (%)
2022 to 2023	12.8	6.6
2023 to 2024	-5.7	-21.9

Table 3 shows the annual percentage change in contraceptive methods. Findings indicate a decline in total contraceptive users from 2023 to 2024, with injectables experiencing a steeper drop (-21.9%) compared to implants (-5.7%).

Table 4: Comparison between implant and Injectable 2022 through 2024.

Year	Implant	Injectable	t-value	p-value
2022	9.08±3.68	16.42±3.97	-4.696	<0.001*
2023	10.25±3.49	17.50±4.44	-4.444	<0.001*
2024	9.67±4.16	13.67±4.66	-2.218	0.037*

* Significant mean difference at $p < 0.05$

Table 4 shows the mean usage of implants and injectables from 2022 to 2024. Injectables consistently had higher mean usage, but their decline in 2024 narrowed the gap. The declining t-values indicate a decreasing statistically significant difference between implants and injectables ($p < 0.05$).

DISCUSSION

The observed trends in contraceptive use at the National Hospital Abuja from 2022 to 2024 highlight an evolving landscape in family planning choices, characterized by a declining overall uptake and a shift in the preference between injectables and implants.

Despite the benefits of LARC, the overall decline in contraceptive use in 2024 raises important concerns. Possible explanations include supply chain disruptions, reduced public awareness campaigns, or personal and sociocultural factors influencing contraceptive decisions. [6, 10, & 13] Given that Nigeria's family planning services rely significantly on donor funding, fluctuations in financial support may also impact contraceptive availability and affordability. [11, 12]

Increased implant use has been the main driver of the increased map attained by 11 countries, with gains in implant use alone exceeding combined gains in use of other reversible methods. [13] In countries like Burkina Faso and Ethiopia, Democratic Republic of the Congo and Ghana, Kenya and Senegal, implant use now accounts for one-fourth to one-half of all modern method use. Also, Implants have become the first or second most widely used method in 10 countries. [6, 13]

While injectables remained the dominant contraceptive method throughout the study period, the narrowing statistical gap in 2024 suggests a weakening preference for injectables compared to previous years. This aligns with global trends that indicate a gradual shift towards implants, which offer extended protection, minimal compliance burden, and high effectiveness. [1, 13]

One plausible explanation for the reducing uptake of injectables is the increasing awareness of their potential side effects, including menstrual irregularities, weight gain, and delayed return to fertility, which are well-documented concerns associated with depot medroxyprogesterone acetate (DMPA) injections. [4,9] Moreover, supply chain disruptions, policy changes, and stockouts may have contributed to the fluctuations in method uptake observed in this study, particularly in 2024. [1, 11 & 12] On the other hand, while implants were previously underutilized due to high commodity costs, their growing acceptance

may be attributed to government subsidies and donor-supported programs that have significantly reduced the financial barrier to access. ^[8,12, & 13] Additionally, the long-term benefits of implants, including their three-to-five-year duration, have made them a more attractive option for women seeking reliable contraception without the need for frequent clinic visits, suggestive of a salient shifting provider recommendation. ^[4,8 & 14] Previous studies have shown that where implants are made widely available and affordable, uptake increases, even in settings where injectables were the preferred method. ^[12,15-18]

Beyond cost and accessibility, sociocultural factors may also play a role in contraceptive decision-making. Myths and misconceptions about LARC methods, such as fears of infertility or severe side effects, have historically contributed to low uptake in sub-Saharan Africa. ^[13, 19] However, increasing advocacy and community-based interventions aimed at dispelling misinformation may have contributed to the steady rise in implant adoption. ^[20] Furthermore, the role of healthcare providers in influencing contraceptive choice cannot be overlooked. ^[20] Studies suggest that provider bias and counselling practices significantly impact a woman's decision to use a particular contraceptive method. ^[10, 16-18] If providers increasingly recommend implants due to their effectiveness and long-term benefits, this could further contribute to their rising popularity. Expanding access to contraceptive options while addressing concerns about method-specific side effects is critical in sustaining contraceptive uptake and meeting the reproductive health needs of women.

STUDY LIMITATION

Despite its strengths, this study has some limitations. As a retrospective analysis, it relies on existing medical records, which may not fully capture individual reasons for contraceptive choice or discontinuation. Additionally, external factors such as policy changes, availability of free contraceptive programs, and sociocultural influences were not directly assessed. Future research should incorporate qualitative methods to explore user perspectives, reasons for method switching, and provider attitudes toward contraceptive counselling. Nevertheless, the study provides valuable insights into the changing dynamics of contraceptive preferences and underscores the need for continued investments in accessibility, affordability, and contraceptive education to support informed reproductive health choices.

RECOMMENDATIONS

1. Strengthen public education on contraceptive choices, especially highlighting implant benefits and addressing myths and concerns
2. Improve equitable access by ensuring both implants and injectables are affordable, available and supported by trained providers.
3. Track usage trends to guide policy and funding adjustments in response to shifting method preferences

CONCLUSION

The findings reveal a concerning decline in overall contraceptive adoption, despite the continued dominance of injectables, implants are experiencing a steady rise in adoption. The statistical gap between the two methods is narrowing, and if current trends persist, implants may become an equally preferred option in the near future. These insights highlight the need for targeted interventions to prevent further contraceptive decline, enhance user education, and optimize resource allocation. Strategic interventions now will be key to shaping future contraceptive choices and ensuring informed decision-making for users.

Declarations

ETHICAL APPROVAL: Ethical approval was obtained from the National Hospital Abuja Research Ethics Committee in accordance with the committee's guidelines on retrospective studies. As a retrospective review of anonymised records, informed consent was waived.

CONSENT TO PARTICIPATE: Not applicable

CONSENT FOR PUBLICATION: Not applicable. No individual patient data are included in this manuscript.

DATA AVAILABILITY STATEMENT: The datasets generated and analysed during the current study are available from the corresponding author on reasonable request

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USE OF AI TOOLS: Grammarly was used solely for spelling checks.

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