

## Pattern of contraceptive implant uptake and its prevalence among women attending Family Planning Clinic at the Bingham University Teaching Hospital, Jos

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### Abstract

Contraceptive Implants have been proven to be very effective hormonal birth control devices. This study aimed to evaluate the prevalence and pattern of uptake of implants among women of reproductive age in Bingham University Teaching Hospital (BHUTH), Jos Nigeria. It was a retrospective analysis of BHUTH family planning unit records between January 2022 and July 2024 totaling a period of 31 months. Out of the 1498 women who subscribed to family planning services during the study period, 485 clients accessed implants, which accounted for 30% prevalence. Levoplant (13%) was the highest followed by Jadelle® (9.9%) and Implanon (9.5%) in terms of prevalence with same trend in terms of pattern of implant uptake of 40%, 36%, and 30% respectively was observed.

Contraceptive prevalence of implants at Bingham University Teaching Hospital, Jos Nigeria was approximately 30%, with Levoplant having higher patronage followed by Jadelle® and Implanon respectively at an average of 16 clients per month. Provision of free services on contraceptive implants at no cost, more emphasis and modification on advocacies on same are thus recommended.

**Keywords:** Implanon; Levoplant; Jadelle®; Contraception; Family Planning; BHUTH

### 1. Introduction

Maternal Mortality is a challenge in developing countries linked with high fertility, birth rates, and poor utilization of contraceptive methods [1]. In Nigeria, maternal and infant mortality is still high. The unmet need for contraception is the leading cause of death among women of reproductive age (15-49) [2]. Postpartum women are at a high risk of rapid repeat, unplanned pregnancy which is associated with adverse outcomes for the mother and child [3].

In view of these, it is imperative for women receive information on family planning and the health with its social benefits of birth spacing during ANC, immediately after birth, and during postpartum periods [4]. Many birth control methods are used all over the world, including natural products which is common in Nigeria for many decades. Ayuba *et al.*, reported pharmacologically validated with patents [5]. Suitable, yet-not-effective contraceptive methods have been reported by women have let drop the introduction of the implant [6]. Contraceptive systems represent a safe and effective instrument allowing fertile women who do not desire pregnancy to avoid it, and all women asking for contraception should receive detailed counselling about contraceptive choice [7].

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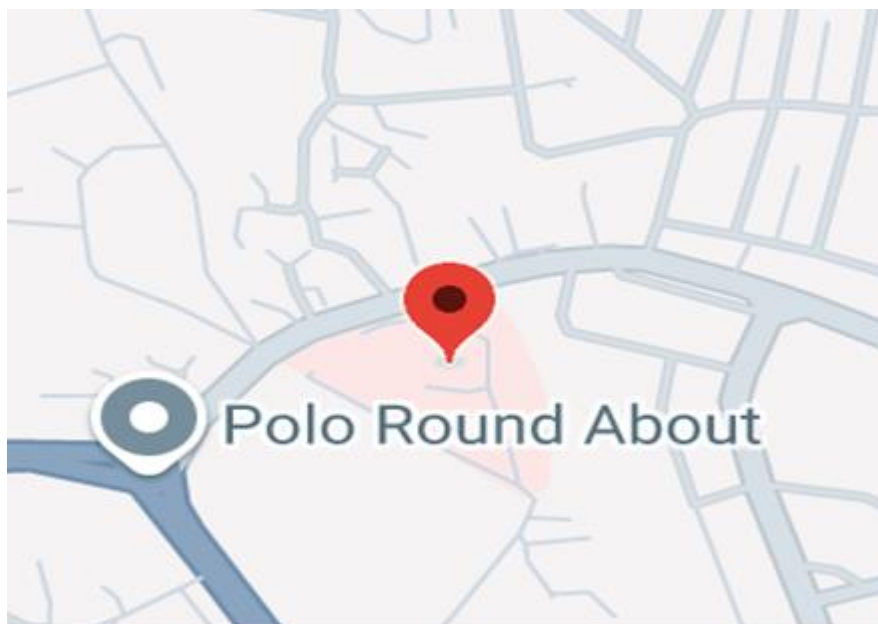
The use of modern contraceptives in Africa continues to be low at 33% despite global trends which show increasing usage, especially in North America at 75% [8]. Among those who are not using contraception in developing countries, about 214 million women want to avoid pregnancy [9, 10], including Nigeria [6]. A major characteristic of all developing countries is rapid population growth which is due to high fertility, birth rates and poor utilization of contraceptive methods.<sup>1</sup> In fact, the use of modern contraceptives in Africa continues to be low at 33% despite global trends which show increasing usage, especially in North America at 75%.<sup>8</sup> The uptake of contraception within the first 72 h after delivery is advantageous since the mother is certain that she is not pregnant and it is also a good practice to increase contraceptive access in the immediate postpartum [11].

Contraceptive implants are one of the most effective family planning methods available, well-accepted worldwide [12]. They include Implanon, Levoplant, Jadelle® which are long term hormonal contraceptive implants that have become popular because of their advantages such as being less conspicuous and convenient in the use. The fact that implants do not affect breastfeeding [12], and other health benefits such as preventing unintended pregnancies, promoting healthy birth spacing, reducing lifetime risk of maternal deaths, and enhancing attainments of goals [13] has made its use to be highly embraced globally. Various reports showed that the overall prevalence use of Implanon was 18.6% in Southern Nigeria [14], 7% and 3.6% in Western Nigeria [15,16]. There is no doubt that the desired patronage of the use of contraceptive implants is still very low in the sub-Saharan African region, and the need to evaluate current usage has become imperative. This study aimed to determine the prevalence and pattern of contraceptive implant uptake among women attending the family planning clinic at Bingham University Teaching Hospital (BHUTH), Jos-Nigeria.

## 2. Material and methods

### 2.1. Study site

Bingham University Teaching Hospital (BHUTH) is a 400 Bed tertiary healthcare Facility located in Jos, Plateau State, North Central Nigeria. It was established as Evangel Hospital in February 1959 and was the vision of SIM (then Sudan Interior Mission) and known for its focus on improving health outcomes through expert care, medical training, and research [17,18].



**Figure 1** Google map location of BHUTH [19]

### 2.2. Study design

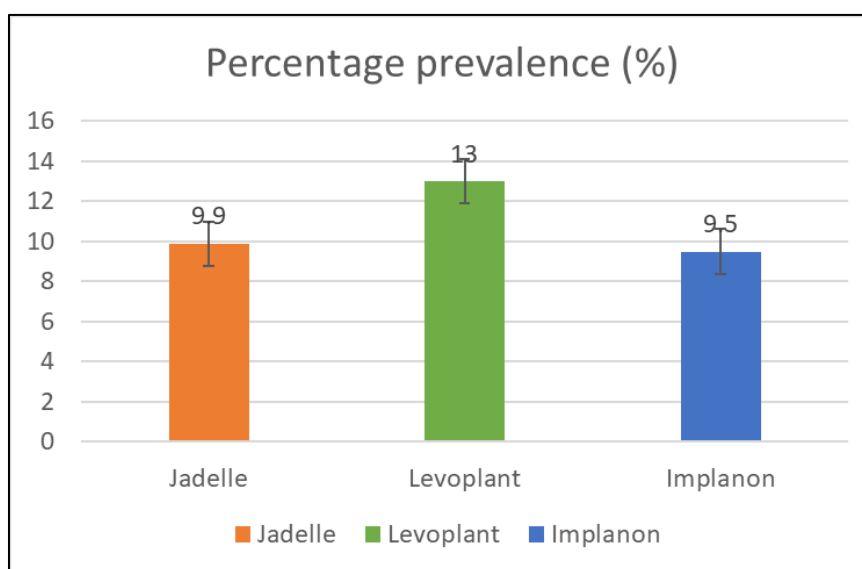
A hospital-based retrospective analysis of BHUTH, Jos Nigeria Family Planning Unit records of contraceptive implants accessed by clients between January 2022 and July 2024.

### 2.3. Data collection and analysis

A total of 1498 women subscribed to family planning methods out of which 485 accessed implants and other family planning methods 1013 at the Family Planning Unit of BHUTH, Jos Nigeria, between January 2022 and July 2024. Collected data were analyzed using descriptive statistics in form of charts and tables.

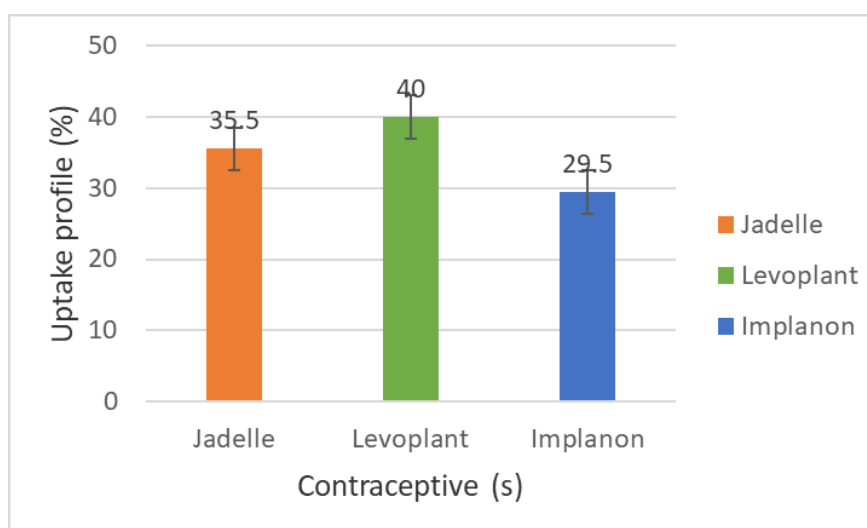
### 3. Results and discussion

Our study showed that 485 (32.4%) women accessed implants and other family planning methods 1013 (67.6%) with average monthly clients of 16 and 33 for implants and other family planning methods respectively for the period of 31 months (January 2022-July 2024) from a total of 1498 clients that attended Family Planning Clinic in BHUTH, Jos Nigeria. Figure 2 showed the prevalences of implants uptake with Levoplant (13%), Jadelle® (9.9%) and Implanon (9.5%).



**Figure 2** Prevalences of implants uptake

In terms of pattern of implant uptake, Levoplant (40%) followed by Jadelle® (36%) and Implanon (30%) respectively – *Figure 3*.



**Figure 3** Pattern of implants uptake

More than 220 million women in developing countries currently have an unmet need for modern contraception, mainly in sub-Saharan Africa [20]. Despite the effectiveness and availability of this contraceptive, the uptake is still very low in the southwestern part of Nigeria due to multiplicity of factors [21]. As recently as 2011, the contraceptive prevalence rate (CPR) for implants in sub-Saharan Africa was only 1.1% among married women, including 0.6% in Western Africa, 0.3% in Middle Africa, and 0.1% in Southern Africa [22]. The 32.4% implant contraceptive prevalence was retrieved from average monthly clients of 16 and 33 for implants and other family planning methods respectively for the period of 31 months (January 2022-July 2024) from a total of 1498 clients that attended Family Planning Clinic in BHUTH, Jos Nigeria according to our study is still low and in consonance with the aforementioned reports of unmet modern contraception sub-Saharan Africa, especially Nigeria. This suggests more intensified efforts to mitigating against the recurring identified factors including, socioeconomic status of the woman, cultural factors, lack of access, lack of cooperation by partners, family members, and friends, level of education, awareness, religion, fear of risks and side effects of contraceptives etc. [23 - 28].

Similarly, it is reported that myths and misconceptions about the side effects and risks associated with the Long-Acting Reversible Contraception (LARC) methods exist among South African women [29,30,31].

Over the last decade, increased investments in family planning programs increased the rate of contraceptive use from 19 to 62% in developing countries and contributed to an estimated 75% decline in fertility rate [32]. Our study further showed Levoplant as the highest (13%) followed by Jadelle® (9.9%) and Implanon (9.5%) in terms of prevalence (*Figure 2*) with the same trend in terms of pattern of implant uptake of 40%, 36% and 30% respectively (*Figure 3*). These are effective contraceptives. Implanon, Norplant, and Jadelle® are highly effective contraceptive methods [33]. Fuchs et al., 2020 also reported that Sino-implant (II) LNG release rates were significantly lower than Jadelle® with Sino-implant (II) rates through year 3 comparable to Jadelle® rates through year 5. [34] These results reinforce the 3-year duration of action for which Sino-implant (II) was prequalified by the World Health Organization [35].

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#### 4. Conclusion

Contraceptive prevalence of implant at Bingham University Teaching Hospital, Jos Nigeria was approximately 30%, with Levoplant having higher patronage followed by Jadelle® and Implanon respectively at an average of 16 clients per month. Provision of free services on contraceptive implants at no cost, more emphasis and modification on advocacies on same are thus recommended.

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#### Compliance with ethical standards

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##### *Disclosure of conflict of interest*

Authors hereby declare no conflict of interest.

##### *Statement of ethical approval*

Study was approved by the Institutional Ethical and Research Committee.

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