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Postpartum Subcutaneous Implant: Use and Follow-Up of Users at the Coronthie Communal Medical Center in Conakry, Guinea in 2022

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Abstract: *Objective*: This study aimed to evaluate the use of the subcutaneous implant in the postpartum period at the communal medical center of Coronthie in Conakry. *Methods:* This was a longitudinal study carried out from1st of July202December 2 to 31, 2022, be oneperiod6 months. Were included, women having gave birth in the service, chosen and received the postpartum contraceptive implant and agreed to participate in the study. The non-inclusion criteria were women with serious maternal complications, post-abortion women and refusal to participate in the study. We carried out an exhaustive recruitment of patients. We performed a simple descriptive analysis with calculation of numbers and percentages. *Results:* Of a total of 631 patients advise on the different methods of contraception, 117 (18.5%) used the postpartum contraceptive implant. The users of the implant had an average age of 25 years with extremes of 14 years and 45 years and were mainly married (59%), secondary level (41%) exercising a liberal profession (53%) and primiparous (45.3%). They were mainly recommended in the postpartum (47.9%) and the implant was inserted in the immediate postpartum in 73.5% of cases. The majority of users of the implant had presented neither adverse effects (64.1%) nor immediate complications (93.2%). The continuation and satisfaction rates were 87.2% and 79.3% respectively. *Conclusion:* our study has shown that the use of the postpartum implant is well accepted by patients, resulting in an el rate eve of continuation and satisfaction. Therefore, the implant provides a safe, long-acting contraceptive that can be used by most postpartum patients for birth spacing.

Keywords: Subcutaneous Implant, Postpartum, Coronthie, Guinea

1. Introduction

Family planning (FP) is a key intervention in reducing maternal, neonatal and infant mortality and morbidity, by preventing unwanted pregnancies and births that are too closely spaced. Unwanted pregnancies and those that are not sufficiently spaced are a public health problem because they are associated with an increase in neonatal and infant maternal morbidity and mortality. Indeed, the interval recommended by the WHO before planning a new pregnancy is at least 24 months [1]. In 2012, approximately 222 million women in low-resource countries wanted to avoid pregnancy but were not using modern contraception [2]. In Guinea, despite the efforts made in recent years, the maternal mortality rate remains among the highest in sub-Saharan Africa with a ratio of 550 per 100,000 live births and unmet needs for family planning among married women aged 15 to 49, which are around 26% [3]. Postpartum family planning (PPFP) saves lives. Unmet need for FP up to one year postpartum is higher

than at any other time, because most women wish to delay or prevent future pregnancy in the postpartum period [4]. According to the World Health Organization (WHO) postpartum family planning is a safe, effective and cost-effective method for the prevention of unwanted pregnancies, the prevention of abortions, birth spacing and improving maternal and neonatal health [5, 6]. In low-resource countries, childbirth is one of the few times when women come into contact with health providers, because different social, cultural and economic reasons make this contact difficult. In Guinea, the fact that 81% of pregnant women have recourse to prenatal care and more than 55% give birth in an establishment constitutes a great opportunity for PPFP [2]. This is why, in most developing countries like Guinea where women do not return for postpartum care, the postpartum contraceptive implant can help fill unmet FP needs in women. especially since it does not interfere with breastfeeding and is safe for women. So, Reducing unmet FP needs among postpartum women is a major challenge for reducing maternal, neonatal, and infant mortality in Guinea. The objective of our study was to evaluate the use of the postpartum contraceptive implant in the maternity ward of the communal medical center (CMC) of Coronthie in Conakry in Guinea.

2. Methods

The municipal medical center (CMC) of Coronthie which served as a framework for study, is a level II structure of the health pyramid of Guinea which carries out nearly 4,000 deliveries per year and which serves the population of Coronthie in the municipality of Kaloum (74,327,000 inhabitants), l one of the six communes of the city of Conakry. The Coronthie CMC maternity unit provides comprehensive emergency obstetric and neonatal care.

This was a longitudinal study on the insertion of the contraceptive implant after childbirth (vaginal or caesarean section) at the maternity ward of the CMC of Coronthie carried out from July 1, 2021 to December 31, 2021, i. e. a period of 6 months. The study population was made up of patients admitted to the maternity ward for vaginal or cesarean delivery. Were included, patients aged 15 to 49, given birth in our maternity ward, with no contraindication to the insertion of the contraceptive implant and having agreed to use this method. The non-inclusion criteria were post-abortion and maternal emergencies (postpartum haemorrhage, hypertensive complications, etc.) and serious liver disease. A sample noprobabilisticfull-inclusion in all women who received counselling and accepted the implant. Counselling oriented in FP for the insertion of the contraceptive implant was carried out during prenatal consultations (CPN), during hospitalization, during the latency phase of labor and the immediate postpartum. This advice was provided by service providers (midwives and doctors) trained for this purpose. After validation of the patient's choice, the contraceptive implant was inserted after delivery or within 24 hours. The post-insertion counselling was provided by the provider. The data concerning each user was noted in the FP register and the prenatal follow-up notebook. After leaving the maternity ward, the users of the contraceptive implant benefited from clinical follow-up by physical presence or by telephone call at the 6th week, at the 3rd and 6th month. Adverse effects, complications, continuity and satisfaction rates were sought during follow-up.

The characteristics studied were socio-demographic (age, marital status, educational level, occupation), obstetrical (parity), related to the use of the implant (timing of counselling and insertion) and follow-up of users of the implant. implant (adverse effects, complications, continuation, satisfaction). A survey form served as the data collection instrument. The data thus obtained were supplemented by those produced by the documentary analysis from the various registers (prenatal consultations, family planning) and from the obstetric records of the patients.

Data were entered using Epi Data entry version 3.1 software. Double entry was performed to minimize errors. We performed a simple descriptive analysis with calculation of means and percentages using SPSS version 21 software.

From an ethical point of view, the patients were informed of the objective of the study and verbal and informed consent was obtained from each of the users of the implant. Each user's privacy and right to withdraw from the study at any time was guaranteed.

3. Results

Of the 2,342 deliveries (vaginal route and caesarean section) performed during the study period, 631 patients received advice on the various methods of contraception, of which 117 (15.8%) used the subcutaneous implant (Table 1).

Table 1. *Contraceptive methods used.*

Type of contraceptive methods	Number (n)	Percentage (%)
Injectables	89	14.1
Oral contraceptives	85	13.5
Interval IUD	153	24.2
PPIUD	187	29.6
Implant	117	18.5
Total	631	100

Table 2. *Sociodemographic and obstetrical characteristics.*

Sociodemographic and obstetrical characteristics	N (117)	% (100)
Age groups (years)*		
≤ 19	26	22.2
20-24	33	28.1
25-29	27	23.2
30-34	20	17.1
35-39	8	6.8
≥ 40	3	2.6
Marital status		
Singles	13	11
Brides	104	89
Education level		
No schooling	17	14.5
Primary	34	29.1
Secondary	48	41.0

Sociodemographic and obstetrical characteristics	N (117)	% (100)
Superior	18	15.4
Occupation		
Housewife	19	16.2
Liberal	62	53.0
Student	24	20.5
Employee	18	15.3
Parity		
Primiparous	53	45.3
Multiparous	24	20.5
Grand multiparous	5	4.3
*Average age: 25 years +/- 6.7 years with extremes of 14 - 45 years		

Table 3. *Timing of Counselling and Implant Insertion.*

Timing of counseling and insertion	Number (n)	Percentage
Timing of counselling		
During ANC	52	44.4
Latency phase	9	7.7
Postpartum	56	47.9
Insertion period		
Immediate postpartum	86	73.5
Late postpartum	31	26.5

Table 4. *Clinical follow-up.*

Clinical follow-up	6th week not (%)	3rd month not (%)	6th month not (%)
Side effects			
None	78 (66.7)	77 (65.8)	75 (64.1)
Amenorrhea	3 (2.5)	6 (5.1)	5 (4.3)
Vaginal bleeding	5 (4.3)	9 (7.7)	0 (8.5)
Headaches	12 (10.2)	8 (6.8)	6 (5.1)
Weight gain	4 (3.4)	5 (4.3)	8 (6.8)
breast pain	9 (7.6)	5 (4.3)	2 (1.7)
Without answer	6 (5.1)	7 (5.9)	11 (9.4)
Complications			
None	86 (73.5)	101 (86.3)	109 (93.2)
Insertion site pain	12 (10.2)	2 (1.7)	0 (0.0)
bruise	6 (5.1)	0 (0.0)	0 (0.0)
No answer	13 (11.1)	14 (11.9)	8 (6.8)
Continuation			
Yes	105 (89.7)	107 (91.4)	102 (87.2)
No	4 (3.4)	3 (2.5)	5 (4.3)
No answer	8 (6.8)	7 (5.9)	10 (8.0)

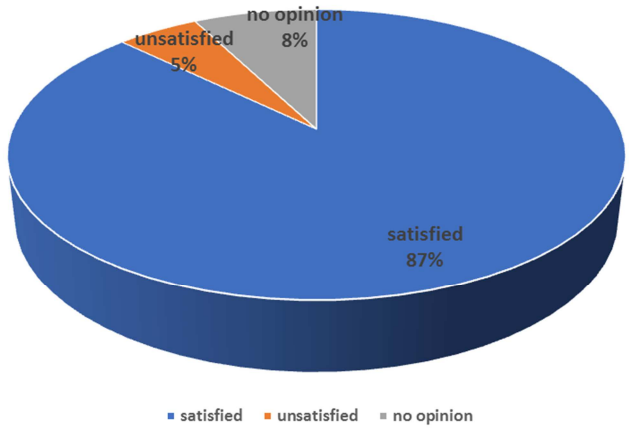

Figure 1. *Ssatisfaction ofContraceptive implant users, Communal Medical Center of Coronthie, Conakry, Guinea (N=117).*

4. Discussion

In our study, the rate of use of the implant was high. This high rate could be explained on the one hand by the training of service providers in counselling, and on the other hand by its application during ANC, during labor and postpartum. It is higher than that reported by Mbow FB et al which was 3% in Dakar [24]. Lower than that found by Brant et al. which was 29.1% [25]. This observation could be explained by the fact that providers were made aware of offering postpartum contraception to women who had given birth. However, efforts must be continued to increase the rate of postpartum implant use by building the capacity of service providers, raising awareness among pregnant women during prenatal consultations and combating socio-cultural barriers.

Despite these efforts, the supply of contraceptive implant services in Guinea remains extremely low, since it is less than 2% among women aged 15 to 49 [3]. Several reasons could explain this low use of the contraceptive implant, in particular the fear of preventing future pregnancies and complications, the woman's lack of decision-making power, the pressure to give birth to at least one son, the pressure to give birth soon after marriage, lack of involvement of husbands and low motivation of providers [10, 15].

The analysis of the socio-demographic and obstetrical characteristics (Table 2) shows that the users of the contraceptive implant had an average age of 25 years with extremes of 14 and 45 years, more than a quarter (28%) of the users of the implant contraceptive was 20-24 years old, mostly married (59%) and exercising a liberal profession in 53% of cases. Our results agree with those of the literature.[9, 16, 17]. With regard to schooling, our result is contrary to that of Eluwa et al. who found that women with a level of schooling were more numerous (73%) [9]. This observation could be explained by the choice of the type of population. Obstetrically, pauciparous women were more numerous in our study, which is identical to the results founding the literature [19, 20, 21].

The analysis of Table 3 shows that the vast majority of users of the contraceptive implant had been advised and oriented immediately postpartum and during prenatal follow-up. This high rate of advice given in the immediate postpartum could be explained on the one hand by the fact that some patients had not carried out their prenatal follow-up in our maternity ward, but came to give birth there and benefited from advice in the immediate postpartum and on the other hand, by the low motivation of health providers. To enable patients to share information and gather the husband's opinion, efforts must be made with providers so that information is provided during prenatal follow-up. For Pleah et al., women who receive information about the postpartum contraceptive implant during pregnancy have a significantly higher acceptance rate compared to those who do not [7]. In Guinea, almost eight out of 10 women (81%) received antenatal care from a trained provider, ie a doctor, midwife or nurse [3]. Thus, raising awareness about the postpartum contraceptive implant during ANC, early labor or postnatal care services can significantly

reduce unmet need for FP. almost eight out of 10 women (81%) received antenatal care from a trained provider, ie a doctor, midwife or nurse [3]. Thus, raising awareness about the postpartum contraceptive implant during ANC, early labor or postnatal care services can significantly reduce unmet need for FP. almost eight out of 10 women (81%) received antenatal care from a trained provider, ie a doctor, midwife or nurse [3]. Thus, raising awareness about the postpartum contraceptive implant during ANC, early labor or postnatal care services can significantly reduce unmet need for FP.

Nearly two-thirds (73.5%) of the contraceptive implants in our series were inserted in the immediate postpartum. Our results could you be explained by the fact that more than two thirds of the women had not had the opportunity to be advised during the prenatal follow-up because they had not carried out their prenatal follow-up in our maternity ward and were advised during the latent phase and the immediate postpartum. Our results were similar to those of Pléah and Coll. [7] who found an immediate postpartum insertion rate of 45%. However, this result is different from other studies [8, 20] which founder higher post-placental insertion rate than the immediate postpartum insertion rate. According to some authors [6, 7], women who attend health facilities where providers are trained in postpartum contraceptive implant insertion are more likely to use postpartum family planning than those who are not. This indicates that women who consult during prenatal care in health facilities are particularly receptive to information on contraception and birth spacing.

Monitoring postpartum contraceptive implant users (Table 4) is an important step in promoting and popularizing postpartum contraception. In our study, more than eight out of ten users of the drug were followed up through consultations or telephone calls. Our follow-up rate at the 6thweekafter implant insertion was identical to those observed in the literature [7, 8]. The majority of our patients did not present any adverse effects or complications.

The high satisfaction and continuity rates found in our study, are identical to those observed by most authors [7-9, 24]. This confirms the fact that the postpartum contraceptive implant is a safe and acceptable method of contraception that can be safely offered to women after childbirth. The WHO reveals that the majority of women (78%) in the first year postpartum do not want to get pregnant, but only 10% of them use a FP method [5, 6]. This underlines the importance of meeting women's contraceptive needs, particularly in long-acting reversible methods such as the contraceptive implant. This is why many developing countries like Guinea, have already taken the initiative to integrate FP services into the continuum of immediate postnatal care through the insertion of the contraceptive implant in consenting women [25]. As a result, the provision of postpartum contraceptive implant services is not a separate service, but rather integrated with maternal and child health services. Putting these recommendations into practice could contribute to reducing neonatal and infant maternal morbidity and mortality rates in Guinea.

Our study can contribute to the promotion and popularization of postpartum contraception by showing that the insertion of the contraceptive implant after childbirth is feasible and is safe for the woman. However, it has limitations related to its monocentric nature, the non-representativeness of the sample and the non-collection of data on the previous use of a contraceptive method.

5. Conclusion

The postpartum contraceptive implant is a long-acting, effective, reversible contraceptive safe anddiscreet not requiring regular visits which can be used by most women for birth spacing in Guinea. Thus, the popularization and promotion of the postpartum contraceptive implant could contribute to reducing the rates of neonatal and infant maternal morbidity and mortality in Guinea.

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