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Postpartum Intrauterine Device: Use and Follow-Up of Users in the Maternity Ward of the Ratoma Communal Medical Center in Conakry, Guinea

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Abstract

Objective: The aim of this study was to describe the use of the postpartum intrauterine device in the maternity ward of the Ratoma communal medical center in Conakry. Methods: This was a descriptive cross-sectional study carried out between July 1st 2015 and June 30 2016, *i.e.* a duration of one year. Results: A total of 551 patients received advice on various contraceptive methods. Most of this advice was given in the post-partum period (40.2%) and during antenatal care (39.1%). Of the patients advised, 87 (15.8%) used the intrauterine device. The majority of users (93%) were married and uneducated (63.2%), and 39.1% were poor. The majority (56.3%) of intra-uterine devices were inserted in the immediate post-partum period. The majority of women had no adverse events either during the first six weeks (n = 57; 65.5%) or at 3rd months (n = 75; 86.2%) or 6th months (n = 76; 87.4%) after IUD insertion. Most users remained complication-free throughout the follow-up period (n = 76; 87.4% at 6th weeks and 3rd months, and n = 77; 88.5% at 6th months). The continuation rate was 89.7% at 6 weeks and 3rd months, and 87.4% at 6th months after insertion. The majority of users (87.0%) were satisfied with the care they received. Conclusion: This study showed very few complications among intrauterine device users, and high continuation and satisfaction rates. The intrauterine device is a long-acting, effective, reversible and safe contraceptive that can be used by most women for birth spacing in Guinea, where women do not regularly visit health facilities.

Keywords

Postpartum Intrauterine Device, Use, Follow-Up, Coronthie Communal

Medical Center Conakry, Guinea

1. Introduction

Family planning (FP) is a key intervention in reducing maternal, newborn and child mortality and morbidity, by preventing unwanted pregnancies and births too close together. In 2012, around 222 million women in low-resource countries wanted to avoid pregnancy, but were not using modern contraception [1]. Despite efforts in recent years, Guinea has one of the highest maternal mortality rates in sub-Saharan Africa, with a ratio of 540 per 100,000 live births, and an unmet need for family planning among married women aged 15 - 49 of around 26% [2]. Post-partum family planning (PPFP) saves lives. Unmet need for FP up to a year after childbirth is higher than at any other time, because most women wish to delay or prevent a future pregnancy in the postpartum period [3]. According to the World Health Organization (WHO), postpartum family planning is a safe, effective and cost-effective method for preventing unwanted pregnancies, preventing abortions, spacing births and improving maternal and neonatal health [4] [5]. In low-resource countries, childbirth is one of the rare moments when women come into contact with healthcare providers, as various social, cultural and economic reasons make this contact difficult. In Guinea, the fact that 81% of pregnant women use antenatal care and more than 55% give birth in a facility represents a great opportunity for a PFPP [2]. This is why, in most developing countries like Guinea where women do not return for postpartum care, the postpartum intrauterine device (PIPD) can help to meet unmet need for FP, especially as it does not interfere with breastfeeding and is safe for women. Thus, reducing unmet need for FP among postpartum women is a major challenge for reducing maternal, neonatal and infant mortality in Guinea. The aim of our study was to describe the use of the IUPP at the maternity ward of the Centre Médical Communal (CMC) de Ratoma in Conakry, Guinea.

2. Methods

2.1. Study Framework

Guinea is a West African country with approximately 11 million inhabitants in 2014, 15% of whom live in Conakry, the capital city. (Ref).

The national healthcare system comprises primary (413 and 726 health centers and posts), secondary (26 district hospitals and eight communal medical centers, seven regional hospitals) and tertiary (three national hospitals) levels. (Ref). Conakry is home to six communal medical centers, including Ratoma, which served as the setting for this study.

2.2. Type of Study

This was a descriptive cross-sectional study of IUD insertion after childbirth in

the maternity ward of the Ratoma CMC in Conakry, conducted between July 1st 2015 and June 30 2016, *i.e.* a duration of one year.

2.3. Study Population

The study population consisted of patients admitted to the maternity ward for vaginal delivery or caesarean section. Patients aged between 15 and 49, who had given birth in the department, had no contraindications to IUD insertion and had agreed to use the IUD as a method of contraception, were included. Non-inclusion criteria were post-abortum, chorioamniotitis, premature rupture of membranes over 18 hours, uncontrolled postpartum hemorrhage and traumatic lesions of the genital tract.

2.4. Sample Size and Sampling

A convenience sample was selected for advice on family planning methods from women who had given birth at the Ratoma CMC maternity hospital during the study period.

2.5. IUPD Insertion and User Follow-Up

FP-oriented counseling for IUPP insertion was carried out during prenatal consultations (ANC), during hospitalization, during the latency phase of labor and in the immediate postpartum period. This advice was provided by trained providers (midwives and doctors). IUDs are small, flexible devices, usually made of T-shaped plastic, which are inserted into the uterine cavity. We deliberately chose to use the Copper T 380 A IUD, which is the most widely used in Guinea**.** After validation of the patient's choice, the IUD was inserted either after delivery: within 10 minutes o f placental expulsion (post-placental insertion) or after 10 minutes and within 48 hours (immediate postpartum insertion); or during a caesarean section, after removal of the placenta and before closure of the uterine incision (per-caesarean insertion). Post-insertion counseling was then provided by the provider who inserted the IUD. Data on each patient were recorded in the FP register and in her prenatal follow-up booklet. After discharge from the maternity hospital, patients with PUPDs were reviewed (in consultation or by telephone) at 6ème weeks, 3ème and 6ème months. Adverse events, complications, continuity rate and satisfaction were investigated.

2.6. Study Variables

The study variables were sociodemographic (age, marital status, level of education, occupation), obstetric (parity) and those related to IUDUPP use (time of counseling, time of IUDUPP insertion) and follow-up of IUDUPP users (adverse effects, complications, continuation, satisfaction).

2.7. Data Collection Procedures

A survey form was used to collect data. The data thus obtained were supple-

mented by documentary analysis from various registers (prenatal consultations, family planning, operative reports) and patients' obstetric records.

2.8. Data Capture and Analysis

Data were entered using EpiData 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.

2.9. Ethical Considerations

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

3. Results

Of the 2336 deliveries (vaginal and caesarean) carried out during the study period, 551 patients received advice on various contraceptive methods, 87 (15.8%) of whom used the IUPP (Table 1).

3.1. Socio-Demographic and Obstetrical Characteristics (n = 87)

The women ranged in age from 16 to 43. The mean age was 28, with a standard deviation of 6.9. More than half (54%) of patients were aged between 20 and 29. The majority (93%) were married and had no formal education (63.2%). Obstetrically, more than a third (39.1%) of IUPP users were pauciparous (Table 2).

3.2. Timing of Counseling and IUPP Insertion for Patients (n = 87)

Oriented counseling was most common in the postpartum period and during prenatal follow-up, with 40.2% and 39.1% respectively. Also, the majority (56.3%) of IUDs were inserted in the immediate postpartum period (Table 3).

3.3. Clinical Follow-Up of IUPP Users (n = 87)

During clinical follow-up of IUPP users, the majority of women reported no adverse effects either during the first six weeks (n = 57; 65.5%) or at 3rd months (n = 75; 86.2%) or 6th months (n = 76; 87.4%) after IUD insertion. However, some women (n = 15; 17.2%) complained of pelvic pain during the first six weeks, but this was reported by only one woman at 3rd months, who no longer complained at 6th months. In other users, threads were not visible (n = 5; 5.7%) or were long (n = 2; 2.3%) at the 6th week follow-up, but this was no longer the case at the last follow-up. Most users remained complication-free throughout the follow-up period (n = 76; 87.4% at 6th weeks and 3rd months, and n = 77; 88.5% at 6th months). The IUPP continuation rate was 89.7% at 6 weeks and 3rd months, and 87.4% at 6th months after insertion (Table 4).

Table 1. Type of contraceptive methods used by postpartum women, Ratoma medical center, Conakry, Guinea (n = 551).

Type of contraceptive methods	Number (n)	Percentage (%)
Injectable contraceptives	119	21.6
Oral contraceptives	59	10.7
Interval IUD	76	13.8
DIUPP	87	15.8
Implant	210	38.1
Total	**551**	**100**

Table 2. Socio-demographic and obstetric characteristics of IUPD users, Ratoma medical center, Conakry, Guinea (n = 87).

Socio-demographic and obstetrical characteristics	Number (n)	Percentage (%)
Age (years)		
<20	3	3.4
20 - 24	26	29.9
25 - 29	21	24.2
30 - 34	15	17.2
35 - 39	14	16.1
≥40	8	9.2
Average (Standard deviation)	28 ± 6.9	
Marital status		
Bride	81	93.1
Single	6	6.9
Study level		
Out of school	55	63.2
Primary	4	4.6
Secondary	21	24.1
Superior	7	8.0
Profession		
Housekeeper	33	38.0
Student	16	18.4
Civil servant	9	10.3
Liberal	29	33.3
Parity		
Primiparous	15	17.2
Pauciparous	34	39.1
Multipara	15	17.2
Large multiparous	23	26.4

Table 3. Timing of counseling and IUPD insertion among patients, Ratoma medical center, Conakry, Guinea (n = 87).

DIUPP Counseling and Integration	Number (n)	Percentage (%)
Time of counseling		
During NPCs	34	39.1
Latency phase	18	20.7
Postpartum	35	40.2
Time of IUPD insertion		
Post-placental	11	12.6
Immediate post-partum	49	56.3
Per-caesarean section	27	31.1

Table 4. Clinical follow-up of IUPP users, Ratoma medical center, Conakry, Guinea (n = 87).

Clinical follow-up	6th week	3rd months	6th months
	n (%)	n (%)	n (%)
Undesirable effects			
No	57 (65.5)	75 (86.2)	76 (87.4)
Pelvic pain	15 (17.2)	1 (1.1)	0 (0.0)
Unseen wires	5 (5.7)	0 (0.0)	0 (0.0)
Long wires	2 (2.3)	2 (2.3)	0 (0.0)
No answer	8 (9.2)	9 (10.3)	11 (12.6)
Complications			
No	76 (87.4)	76 (87.4)	77 (88.5)
Vaginal bleeding	1 (1.1)	1 (1.1)	0 (0.0)
Infection	1 (1.1)	0 (0.0)	0 (0.0)
Expulsion	2 (2.3)	1 (1.1)	0 (0.0)
No answer	7 (8.0)	9 (10.3)	10 (11.5)
Continuation			
Yes	78 (89.7)	78 (89.7)	76 (87.4)
No	2 (2.3)	2 (2.3)	4 (4.6)
No answer	7 (8.0)	7 (8.0)	7 (8.0)

3.4. Satisfaction of IUPP Users (n = 87)

Figure 1 shows that the majority of users (87.0%) were satisfied with the care they received. Only 5% of women said they were not satisfied with the care they received.

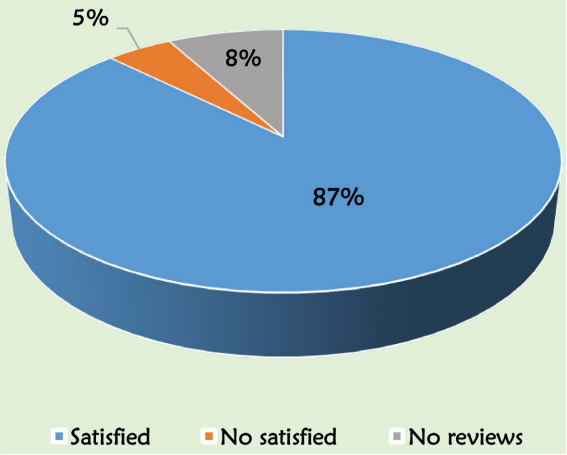

Figure 1. Satisfaction of IUPP users, Ratoma medical center, Conakry, Guinea (n = 87).

4. Discussion

Unwanted and/or inadequately spaced pregnancies are a public health problem, as they are associated with high rates of maternal, neonatal and infant morbidity and mortality**.** The postpartum period is a critical time when mothers are exposed to the consequences of another unwanted or closely-spaced pregnancy. For this reason, this period is an important time to offer long-acting reversible contraception to the mother. With this in mind, the IUPP represents a safe contraceptive method with few complications, and high rates of satisfaction and continuity among IUPP users.

The rate of IUPP use (16%) observed in our study is higher than that found in Guinea by Pléah et Coll [6], and lower than those of some authors [7] [8]. This finding may be explained by the fact that the Pléah et Coll. study was a pilot study in which few women were aware of the issue, and some providers were reluctant to offer post-partum contraception. With the capacity-building of providers, the raising of women's awareness and the combating of barriers, women are increasingly embracing post-partum FP. Despite these efforts, the supply of IUD-PP services in Guinea remains extremely low, accounting for less than 1% of women aged 15 to 49 [2]. Several reasons could explain this low use of the IUPP, including 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, the lack of involvement of husbands and the low motivation of providers [9]-[14]. Misconceptions about the IUD, even among health providers, have been found in numerous African studies [6] [15] [16] [17].

According to our results (**Table 2**), IUPP users had an average age of 28 and were predominantly married (93.1%), which is in line with some studies [8] [15] [16]. In contrast to our study, where more than half the women were uneducated (63.2%), Eluwa *et al.* found that women with some schooling were more numerous [8]. This finding could be explained by the choice of the type of health facility in which the study was carried out and the type of population attending

it. At obstetrical level, pauciparous women were more numerous (39%), which is similar to those found by some authors [4] [18] [19].

Analysis of **Table 3** shows that the vast majority of IUPP users had received advice and guidance in the immediate postpartum period (40%) and during antenatal care (39%). This high rate of counseling in the immediate post-partum period could be explained by the fact that some patients had not completed their prenatal care in our maternity hospital, but came here to give birth, and therefore probably benefited from counseling in the immediate post-partum period, and by the low motivation of health care providers. To enable patients to share information and obtain the husband's opinion, efforts need to be made with providers to ensure that information is delivered during antenatal care. According to Pléah *et al.* women who receive information about the IUPP during pregnancy have a significantly higher acceptance rate than those who do not [6]. In Guinea, nearly eight out of 10 women (81%) received antenatal care from a trained provider, *i.e.* a doctor, midwife or nurse [2]. Raising awareness of the IUPP during ANC, at the onset of labor or in postnatal care services can significantly reduce unmet need for FP.

More than half (56.3%) of IUDs were inserted in the immediate post-partum period, followed by per-caesarean insertions (31.1%). Our result is similar to that of Pléah *et al.* [6], who found an immediate post-partum insertion rate of 45%. However, this result differs from other studies [7] [18] which found a higher post-placental insertion rate than the immediate post-partum and postcaesarean insertion rates. Our result could be explained by the fact that more than two thirds (40%) of the women had not had the opportunity to be counselled during antenatal care, as they had probably not had their antenatal care in our maternity hospital, and had been counselled during the latency phase and immediate postpartum. According to some authors [5] [6], women attending health facilities where providers are trained in IUPP are more likely to use postpartum family planning than those who are not. This suggests that women attending antenatal clinics are particularly receptive to information on contraception and birth spacing.

Follow-up of women with IUPDs (**Table 4**) is an important step in the promotion and popularization of post-partum contraception. In our study, more than eight out of ten IUPP users (87.4%) were followed up through consultations (67% of cases) or telephone calls (33% of cases). Our follow-up rate 6 months after insertion of the IUPP is identical to those observed in the literature [6] [7]. The majority (87%) of our patients had no adverse effects or complications. However, almost two out of ten patients (17%) experienced pelvic pain at 6ème weeks postinsertion. The pelvic pain experienced by IUPP users can be likened to trenches caused by uterine retraction after childbirth. The IUPP is a safe and acceptable contraceptive method, as our results show, with only 2 expulsions recorded (2.3%). This low expulsion rate could be explained by the competence of the providers who inserted the IUPP. Our result is identical to those of other studies carried out in Africa, where expulsion rates vary between

0.8% and 17% [20] [21]. According to some authors, IUD expulsion rates are associated with provider experience and independent of the type of health facility [1] [6] [8] [19].

The high satisfaction and continuity rates (over 87%) found in our study are similar to those observed by most authors [6] [7] [8] [22]. This confirms that the IUPP 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 become pregnant, but only 10% of them use an FP method [4] [5]. This underlines the importance of meeting women's contraceptive needs, particularly in long-acting reversible methods such as the IUD. This is why many developing countries, such as Guinea, have already taken the initiative of integrating FP services into the continuum of immediate post-natal care through IUD insertion in consenting women [23]. As a result, the provision of IUPP services is not a separate service, but rather integrated into maternal and child health services. Implementing these recommendations could help reduce maternal, neonatal and infant morbidity and mortality rates in Guinea.

Our study can contribute to the promotion and popularization of postpartum contraception by showing that IUD insertion after childbirth is feasible and safe for women. However, it has limitations linked to its mono-centric nature, the non-representativeness of the sample and the failure to collect data on previous use of a contraceptive method.

5. Conclusion

The postpartum intrauterine device (IUPD) is a long-acting, effective, reversible and safe contraceptive that can be used by most women for birth spacing in Guinea, where women do not regularly visit health facilities. The IUPP is convenient to use for women and trained providers, with few complications and high rates of continuity and satisfaction. Thus, popularizing and promoting the IUPD could help reduce maternal, neonatal and infant morbidity and mortality rates in Guinea.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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