

## A COMPARISON BETWEEN POSTPARTUM CONTRACEPTION CHOICES AMONG ANTARA, CHHAYA, IUCD, THEIR SIDE EFFECTS AND DROP OUT IN THE RURAL POPULATION ATTENDING TERTIARY CARE CENTRE OF RSDKS GMC AMBIKAPUR

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### Abstract

**Background:** Postpartum period is an ideal time for a women to counsel regarding contraception as after bearing the agony of childbirth, there is much acceptance to it as well as counselling and convincing is easier . There are very few studies conducted regarding the postpartum contraception choices especially Tablet Chhaya and Injection Antara and none regarding their comparison. **Materials and Methods:** Total of 300 agreed to participate in the study. They were then informed about the side effects, dosage and duration of the contraception method and were then asked to sign a written informed consent and inclusion and exclusion criteria were applied. A total of 100 women agreed for PPIUCD insertion while 50 agreed for Injection Antara and 150 were willing for taking Chhaya tablets. They were given the method requested within 7 days of their hospital stay and their side effects and dropouts were studied. **Result:** In this study, in the PPIUCD group, most women had complaints of AUB (70%), while 50% had abdomen pain and nearly 60% had missing threads. In the Chhaya group, only 13.3% had complaints of delayed menses, 5.3% had irregular menstrual cycle while 3.3% had Amenorrhoea. In the Antara injection, 60% women had amenorrhoea while 38% had irregular bleeding and 2% had prolonged bleeding. **Conclusion:** Postpartum period is the ideal time to address the contraceptive benefits. The underutilization of Chhaya and Antara are to be taken care of and health care professionals must motivate the Antenatal patients to opt much of these and remove the preexisting myths for increasing their acceptance.

## INTRODUCTION

Over the course of history, India has seen rapid population growth. As per the current census reports by the UN, India has surpassed China with about 1.4 billion people living currently. Total unmet need of Family Planning is 9.4 (NFHS-V) in our country which has declined from previous data of 13 but with the rising population, family planning programme needs to be strengthened.<sup>[1]</sup> Effective and regular use of contraception reduces unintended pregnancies, thereby minimizing complications associated with medical termination of pregnancy and pregnancy-related morbidity and mortality. The immediate

postpartum period offers an ideal time for women to initiate contraception because of easy access and convenience. Studies show that pregnancies taking place within 2 yrs of a previous birth have increased risk of adverse outcomes like abortions, premature labour, postpartum hemorrhage, low birth weight babies, foetal loss and maternal morbidity and mortality. The reasons for non-use of contraception are many, including lack of awareness, non-availability of accessible family planning services and limitations on women's mobility due to cultural and geographical factors. There are various programmes available under the Ministry of Health and family Welfare, out of which Antara, Chhaya and IUCD can be given in the immediate postpartum

period irrespective of Parity.<sup>[2]</sup> Out of the three, the most unutilized is the Chhaya.<sup>[3]</sup> There are many misnomer regarding the postpartum contraception on the breast milk and menses.<sup>[4]</sup> Our study aims to offer the basket of choices after thorough study about the side effects with appropriate reasons for dropout.

#### Aims and Objectives

- To evaluate side effects of Antara, Chhaya, IUCD in the post partum period.
- To enquire reasons for dropout.

### MATERIALS AND METHODS

**Study design:** This Longitudinal Observational hospital-based study was carried out in Department of Obstetrics and Gynaecology, RSDKS GMC Ambikapur from May 2023 onwards for duration of one year. Out of 500 women counselled during the Antenatal period who were admitted in the Antenatal ward for delivery, total of 300 agreed to participate in the study. They were then informed about the side effects, dosage and duration of the contraception method and were then asked to sign a written informed consent and inclusion and exclusion criteria were applied. A total of 100 women agreed for PPIUCD insertion while 50 agreed for Injection Antara and 150 were willing for taking Chhaya tablets. They were given the method requested within 7 days of their hospital stay.

#### Inclusion Criteria

(For PPIUCD/Injection Antara/ Chhaya tablets

- Age between 18-40 years
- Delivery either through vaginal or caesarean section
- Those willing to participate in the study

#### Exclusion Criteria

##### PPIUCD:

- Fever during labour and delivery (Temperature > 38 degree Celsius)
- Hb<8 gm /dl
- Having active STD or other genital tract infection
- Known to have ruptured membranes > 18 hours prior to delivery
- Known uterine abnormalities like bicornuate / septate uterus
- Manual removal of placenta
- Unresolved PPH requiring additional tocolytics
- Liver or renal dysfunction
- Diabetes mellitus

##### Chhaya/Antara

- Known renal disease
- Known liver disease

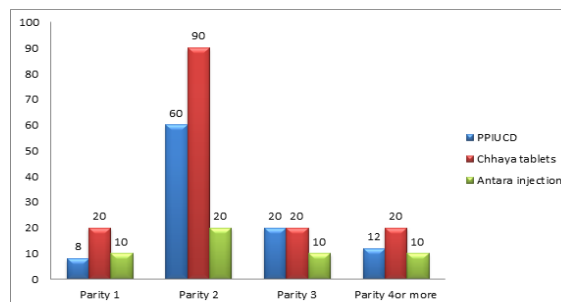
**PPIUCD insertion:** Those women who had vaginal delivery were inserted PPIUCD, either CuT 380A or Multiload 375 was inserted using Kelley's forceps. For women undergoing LSCS, PPIUCD was inserted through the incision line. They were given a follow up card.

**Chhaya tablets:** Women who were willing for Chhaya tablets were asked to take two tablets orally (30 mg) twice a week for first three months followed by once a week from fourth month.

**Antara injection:** For those willing for Antara injection, 150 mg Antara injection once every three months was given and a follow up card was given. Follow up of these patients was done at 3, 6 months and one year and their side effects and dropouts were studied either telephonically or on the OPD basis and statistical analysis done using SPSS version 22.

### RESULTS

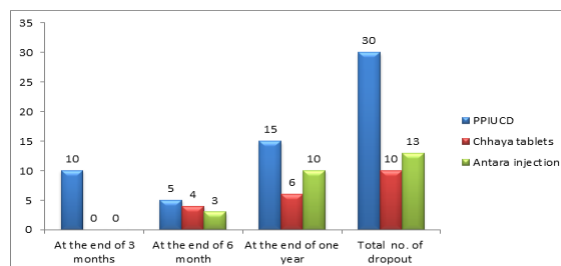
Out of 300 women studied, most of the women were in the age group of 20-30 years and nearly 16.6% were less than 20 years of age. This highlights the incidence of early marriage and pregnancy in the region. Most of the women belong to the rural area and that of lower socioeconomic status as our hospital mostly caters to those belonging to the villages nearby and is a referral centre for the nearby health facilities. One hundred and sixty women were Hindu followed by Muslim and Christian. This also suggests the importance of religious belief among the Muslims and Christian community regarding contraception. Fifty five percentages of women were illiterate thus they were lacking the basic knowledge regarding postpartum contraception methods. [Table 1].



**Figure 1: Distribution of participants based on parity**

In our study, most women were Para 2 followed by Para 3 and para 4 and least were primipara. [Figure 1]

In this study, in the PPIUCD group, most women had complaints of AUB (70%), while 50% had abdomen pain and nearly 60% had missing threads. In the Chhaya group, only 13.3% had complaints of delayed menses, 5.3% had irregular menstrual cycle while 3.3% had Amenorrhoea. In the Antara injection, 60% women had amenorrhoea while 38% had irregular bleeding and 2% had prolonged bleeding. [Table 2].



**Figure 2: Comparison of dropouts among PPIUCD, Tablet Chhaya, Injection Antara**

The total no. of dropouts in the current study is maximum 30% for PPIUCD followed by Injection Antara 26% and least for Chhaya tablets 6.6% at the

end of one year. This shows Chi-square value 10.60 and P- value 0.031, which is statistically significant. [Figure 2]

**Table 1: Sociodemographic features of study participants.**

Age	PPIUCD (n=100)		Chhaya tablets (n=150)		Antara injection (50)	
	n	(%)	n	(%)	n	(%)
< 20 years	10	10	20	13.3	10	20
20-30 years	60	60	90	60	20	40
31-40 years	30	30	40	26.6	20	40
Residence						
Rural	60	60	100	66.6	40	80
Urban	40	40	50	33.3	20	40
Religion						
Hindu	60	60	80	53.3	20	40
Muslim	20	20	35	23.3	20	40
Christian	18	18	35	23.3	10	20
Sikh	2	2	0	0	0	0
Socioeconomic status						
Upper	0	0	0	0	0	0
Upper middle	0	0	0	0	0	0
Middle	10	10	12	8	8	16
Lower middle	20	20	40	26.6	20	40
Lower	70	70	98	65.3	22	44
Literacy status						
Literate	45	45	70	46.6	20	40
Illiterate	55	55	80	53.3	30	60
Mode of delivery						
Vaginal	60	60	50	33.3	30	60
Caesarean	40	40	100	66.6	20	40

**Table 2: Side effects of PPIUCD, Tablet Chhaya and Injection Antara**

PPIUCD n (%)		Chhaya tablets n (%)		Antara injection n (%)	
Side effects	n (%)	Side effects	n (%)	Side effects	n (%)
AUB	70 (70%)	Delayed menstrual cycle	20 (13.3%)	Amenorrhoea	30 (60%)
Abdomen pain	50 (50%)	Irregular menstrual cycle	8(5.3%)	Irregular bleeding	19 (38%)
White discharge	20 (20%)	Amenorrhea	5(3.3%)	Prolonged bleeding	1 (2%)
Expulsion	20 (20%)	-	-	Weight gain	1 (2%)
Perforation	0 (0%)	-	-	Headache	0 (0%)
Pregnancy	0 (0%)	-	-	Mood changes	0 (0%)
Missing threads	60 (60%)	-	-	BP changes	0(0%)

**Table 3: Reason for dropouts**

PPIUCD		Chhaya tablets		Antara injection	
Reason	Dropouts n (%)	Reason	Dropouts n (%)	Reason	Dropouts n (%)
AUB	13 (13%)	Forgetting to take weekly pills	6 (4%)	Irregular bleeding	2(4%)
Pain Abdomen	8 (8%)	Unable to continue taking medications due to far health centres	2(1.3%)	Prolonged bleeding	1 (2%)
Family issues	5 (5%)	AUB	2 (1.3%)	Amenorrhoea	8 (16%)
Other Method	4(4%)	-	-	Switch to other method	2 (4%)

## DISCUSSION

Postpartum period is an ideal time for a women to counsel regarding contraception as after bearing the agony of childbirth, there is much acceptance to it as well as counselling and convincing is easier. There are very few studies conducted regarding the postpartum contraception choices especially Tablet Chhaya and Injection Antara and none regarding their comparison. When asked about the immediate contraception choices to the Antenatal patients, nearly 80% had knowledge regarding PPIUCD. Nearly 15% had idea regarding Injection Antara but its postpartum use was not much known which is

contrary to the results obtained by Bairagya, et al,<sup>[5]</sup> (42.92%) which could be due to literacy status and geographical location. Surprisingly none of the participants knew regarding use of Chhaya in the immediate postpartum period. One of the major issues regarding underutilization of Tablet Chhaya and Injection Antara are myths regarding their use in the immediate postpartum period.

There are two schools of thoughts regarding the timing of initiation of DMPA. Product labelling recommends initiating depot medroxy progesterone acetate (DMPA) four to six weeks postpartum regardless of breastfeeding status.<sup>[6]</sup> Reference Manual by Government of India on DMPA as well as

WHO recommends 6 weeks postpartum.<sup>[7,8]</sup> ACOG recognizes the need for clinical judgement and weighing the need for contraception against theoretical risks and endorses the earlier initiation of DMPA postpartum in certain clinical situations, such as high risk of being lost to follow-up postpartum.<sup>[9]</sup> There is difference of opinion on the effect of DMPA on breast milk. Theoretical concerns of infant safety and premature inhibition of lactation remain with early postpartum administration of depot medroxy progesterone acetate (DMPA). It is thought that newborn's system is immature to metabolize steroid hormones and therefore early initiation could affect the new born adversely.<sup>[8]</sup> However studies indicate that infants are neither able to neither metabolize nor absorb progestin effectively until three months of age and the amount of hormone transferred is 0.05% of the maternal dose.<sup>[10]</sup> Another issue of interference with milk quality and production is also addressed and it has been shown that Progesterone only contraception may not impair lactation.<sup>[11,12]</sup> Regarding Chhaya, it can be initiated at less than 4 weeks postpartum<sup>13</sup> with minimal side effects.

In the present study, Maximum number of participants opted for Chhaya tablets (50%), while PPIUCD users were 33.3% and Injection Antara users were minimum of 16.6%. The difference may be due to impact of counselling on the individuals. As Chhaya is non hormonal so has minimal side effects, while PPIUCD has few side effects and much longer duration of action, also it is Use and Forget type of contraception. Injection Antara on the other hand presents with Amenorrhoea which may be confused with pregnancy and can't be continued for much longer period due to systemic side effects on prolonged use hence less no. of participants opted for it. Although we have informed the participants that amenorrhoea is due to thinning of endometrium rather than pregnancy and not to be worried about much.

In our study, maximum no. of participants belonged to the age group 20-30 years, rural area and are illiterate which is similar to other studies done by Bairagya, et al,<sup>[5]</sup> Dr. Shikha Rani.<sup>[14]</sup> Most of the participants are Hindu which is the mostly followed religion in our study area. While women undergoing vaginal delivery and accepting contraception were 46.6% while Caesarean section was 53.3% with a distribution of 60%, 33.3%, 60% respectively in the vaginal delivery group and 40%, 66.6%, 40% in the Caesarean group in the, PPIUCD, Chhaya tablets and Injection Antara users respectively. The reason could be due to comparatively higher rates of caesarean section in our institute due to maximum referrals from the peripheral areas.

Parity bears a close relationship to acceptance of contraception, while 60% of women in the PPIUCD group, 60% in the Chhaya group and 40% in the Injection Antara Group were para 2 followed by para 3 and para 4 and least were primipara with an average of 12.6%. This finding is similar to the study done by

Dr. Shikha Rani and Radhika J et al with regards to contraception.<sup>[14,15]</sup>

The side effects of PPIUCD included AUB, Abdomen Pain, White Discharge, expulsion, missing threads. In our study 70 out of 100 had AUB followed by 60 out of 100 had missing threads while 50 out of 100 had Abdomen Pain. This is much higher than the study done by Sneha Gupta et al.<sup>[16]</sup>

Among the Chhaya Users, minimal side effects were noted which included delayed menstrual cycle (13.3%), irregular menstrual cycle (5.3%) and Amenorrhoea (3.3%) which is similar to the study done by Radhika AG et al,<sup>[15]</sup> with delayed menses of (15.06%) and Doka G et al,<sup>[17]</sup> (15.06%). As the safety profile of Chhaya is much supported in the literature, the acceptance was much higher in the Chhaya group.

In the Antara injection group, maximum had complaints of Amenorrhoea (60%), followed by irregular bleeding (2%), Weight Gain (2%). There were no complaints of headache or mood changes. Similar findings were found in the study done by Shah, S et al,<sup>[18]</sup> Dr. Shikha Rani.<sup>[14]</sup>

Maximum number of dropouts (30%) were in the PPIUCD group as the side effects experienced by the users is much higher followed by Injection Antara (26%) and Chhaya had least with 6.6%. At the end of 3 months, there were 10 dropouts noted while at the end of 6 months there were 5 and at the end of one year there were 15 in the PPIUCD group. Much number of dropouts were noted at the end of three months as they were not convinced with the minimal side effects noted that can occur with IUCD use. Among the Chhaya tablets users, there were no dropouts at the end of three months, at the end of six months there were four dropouts and at the end of one year there were 6 dropouts. Among the injection Antara users, the number of dropouts at the end of 3, 6 months and one year were 0, 3, 10 respectively. The results Chi-square value 10.60 and P- value 0.031, which is statistically significant.

In this study, the main reasons for dropout in the PPIUCD group was AUB (13%), pain in abdomen (8%), Family issues (5%) and willingness to switch to other method (4%) which is supported by other studies.<sup>[16,19]</sup> Whereas in the Chhaya group it was forgetting to take weekly pills(4%) AUB (1.3%) and far distance from health centres (1.3%). In the Antara injection group, it was amenorrhoea (16%) mainly. Thus, social factors like family pressure, lack of access to health facility, lack of motivation are important factors for the discontinuation of contraception method. These results are quite comparable to the findings of Goswami P et al and also other studies.<sup>[19,20]</sup>

## CONCLUSION

From the current study, we could find different issues relating to reasons and barriers for using of spacing methods. But it was strongly found from this study

that IEC of the clients and motivation by health worker is lagging behind. So for future planning, if we could reduce the fear due to lack of IEC, may be a relatively better result can be seen.

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