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COMPARISON OF EFFICACY OF PPICUD AND INJ. DMPA AS A POSTPARTUM CONTRACEPTIVE METHOD

Obstetrics and Gynaecology

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ABSTRACT

Intrauterine contraceptive devices are the safest method of contraception available at present. The present study was conducted with the aim to compare the effectiveness of PPICUD and Inj. DMPA as a contraceptive method in 40 postpartum mothers between the age group of 21-25 years. Our study shows that overall acceptance rate and satisfaction was higher in inj. DMPA users (90%) as compared to PPIUCD users (82.5%). Complications are relatively less in inj. DMPA users as compared to PPIUCD users.

KEYWORDS

contraception, Inj. DMPA, PPICUD, postpartum mother.

INTRODUCTION

At present India's population is around 1.46 billion and we are second most populous country in the world. According to United Nations projections, India's population will reach 1.53 billion by the year 2050 and become the most populated country in the world (Worldometer India Population, 2022).

According to NFHS-3 (GOI, 2018), the unmet need for family planning is highest i.e. 27.1% among the women below 20 years age and almost entirely for spacing the births rather than for limiting the births. It is also relatively high for the women in the age group of 20-24 years (21.1%) where the need is for spacing the births. The unmet need for contraception among women aged 30 or more are mostly for limiting the births.

The intra-uterine device is highly effective, safe, rapidly reversible, long acting, coital independent method of contraception with relatively few side effects (District Level Household & Facility Survey). Due to its safety, efficacy, coitus independent, rapidly reversible, long-acting nature intrauterine contraceptive devices are the most widely used method of contraception (Nelson et al., 2013). Furthermore, in the immediate postpartum period, the insertion of intrauterine device is convenient and suitable for our country where even para medical personnel can insert the Cu-T and delivery is the only time these patients come in contact with the hospital.

DMPA has been used by more than 68 million women in more than 114 countries worldwide (Westhoff, 2003). There is often a delay in the return of normal periods after using this drug, although there is no long-term permanent effect on fertility. It has been shown that more than 78% of former users who wished to have a baby were pregnant within 12 months, with normal fertility returning by 18 months. However, there is great patient variability. Use of DMPA is independent of intercourse and independent of the user's memory (and thus of continuing motivation), other than remembering the 12 weekly appointments, for many women this is a great advantage (Glasier, 2002). The typical failure rate of DMPA is 0.3 per 100 woman-years, which is comparable with that of implantable contraceptives, copper intrauterine devices (IUD), or surgical sterilization (Trussell, 2004, 2013).

For any contraceptive to be effective, its acceptance by the client is also very important apart from the prevention of pregnancy. It usually depends on the access to the use of contraceptive method, less side effects and ease of its administration. So, with this background the present study was conducted with the aim to compare the efficacy of PPICUD and Inj. DMPA as a postpartum contraceptive method.

MATERIALS AND METHODS

An experimental study was carried out with 40 postpartum mothers in each group for PPIUCD and Inj. DMPA. The patients either had PPIUCD insertion in Gynecology ER- OT and LR after proper counselling or received Inj. DMPA from 6 weeks postpartum onwards (who were not willing for PPIUCD or had some contraindications for PPIUCD insertion) and every 3 months interval at PP unit (Table 1).

After properly counselling the patient and taking informed consent, patients' details were collected on pre-designed proforma; and after proper work up, 2 groups of post-natal mothers were assigned. Group 1-postnatal mothers taken from Gynaecology emergency O.T and labour room who were willing for PPIUCD insertion. The IUCD used was CuT 380 A available under national programme. Group 2-post-natal mothers who came for inj. DMPA in post-partum unit after 6 weeks postpartum. The injection was available with National family planning programme with market name as 'Antara'.

RESULTS

Age wise distribution among the 40 eligible women studied showed that majority of them were from 21-25 years age group for both the categories (i.e 22 (55%) and 20 (50%) respectively in PPIUCD and DMPA group). About 10% each were seen in both groups from above 30 years age group. Mean age in PPIUCD was 23.9±4.31 years and in inj. DMPA group was 24±3.92 years. (Table 2).

Rate of normal delivery was 55% and 60% in PPIUCD and DMPA group respectively, whereas rate of LSCS was 45% and 40% in PPIUCD and DMPA group respectively (Figure 1).

Out of 40 eligible postpartum women in PPIUCD group, 32 i.e 80% were satisfied with use of PPIUCD as a postpartum contraceptive; whereas out of 40 eligible postpartum women, inj. DMPA group, 36 i.e. 90% were satisfied with use of DMPA as a postpartum contraceptive. When compared, rate of satisfaction was more in inj. DMPA group as compared to PPIUCD users but it is not statistically significant. It means there is no much difference in the rate of satisfaction between two group women (Table 3).

Discontinuation rate was 7.5% in PPIUCD users as compared to 5% in inj. DMPA users in second follow up. Discontinuation rate was 5% each in both PPIUCD and inj. DMPA users at third follow up. Acceptance rate was 87.5% in PPIUCD users as compared to 100% in inj. DMPA users at first follow up. Acceptance rate was 82.5% in PPIUCD users as compared to 90% in inj. DMPA users at second follow up. Acceptance rate was 82.5% in PPIUCD users as compared to 90% in inj. DMPA users at third follow up (Table 4).

Bleeding was seen in 9 (22.5%) women using PPIUCD and in 23 (57.5%) women using inj. DMPA at first follow up. Bleeding was seen in 6 (16.2%) women using PPIUCD and in 8 (20%) women using inj. DMPA at second follow up. Bleeding was seen in 2 (6.1%) women using PPIUCD and in 1 (2.8%) woman using inj. DMPA at third follow up (Table 5).

Initially all 40 eligible women who were PPIUCD users, attrition rate

was observed to be 12.5% at the end of 6 weeks. Further, the attrition rate at 3 and 6 months was 17.9% each among 39 women (as 1 woman from 3 month follow up shifted for DMPA). Initially all 40 eligible women who were inj. DMPA users, attrition rate was observed to be 10% at the second follow up. Further, the attrition rate at third follow up was also 10% each. This might be due to unwillingness or loss to follow up (Table 6).

DISCUSSION

In our study, majority of women were from 21-25 years age group as seen in both groups i.e 22 (55%) and 20(50%) respectively in PPIUCD and DMPA group. Katheit & Agarwal (2013) also observed that majority of cases receiving PPIUCD in their study were between the age group of 21-25 years (50.88%) followed by 14.35% below 20 years. 7.32% were above 30 years age. Mishra (2014) found that 56.19% women using PPIUCD were from 20-29 years age group and 37% were above 30 years age. Sharma et al., (2015) stated that majority of her subjects who were using PPIUCD were between 26-30 years age i.e. 43.36% and in 20-25 years age i.e. 45.13%. Singh et al. (2015) shows that most of DMPA users were from 26-35 years age group. i.e. 61%.

Mishra (2014) found that 32.16% women experienced bleeding and 16.2% had pain in abdomen following IUCD insertion in their study. Sharma et al., (2015) stated that 19.23% had experienced menstrual disturbances. Welkovic et al. (2001) studied post-partum bleeding and infection after post placental IUD insertion and found no difference in the incidence of excessive bleeding. In a study by Borthakur et al. (2015), 904 clients (11%) of total follow up complained of excessive bleeding but in only 38 cases (0.5%), PPIUCD was removed for bleeding.

CONCLUSION

Overall acceptance rate was higher in inj. DMPA users as compared to PPIUCD users. Complications are relatively less in inj. DMPA users as compared to PPIUCD users. Rate of satisfaction was more in inj. DMPA group as compared to PPIUCD users.

Table 1: Inclusion and exclusion criteria for postpartum patients

Criteria for inclusion and exclusion of patients	Characteristics
Inclusion criteria	a) Women willing for PPIUCD insertion following delivery and its follow up. b) Plans to use injection DMPA for postpartum contraception from 6 weeks postpartum after proper counselling and proper consent.
Exclusion criteria A. PPIUCD	a) Women having chorioamnionitis or puerperal sepsis b) Prolonged rupture of membranes of > 18 hrs c) Extensive genital trauma d) Unresolved PPH e) Malignant or benign trophoblastic disease f) HIV / AIDS g) Intolerance of irregular vaginal bleeding h) Any abnormality of the uterus or a large fibroid distorting its cavity i) Pelvic inflammatory disease
B. Inj.DMPA	a) Breast cancer which is active within last 5 years b) Severe liver disease (cirrhosis-severe decompensated) c) Cardiovascular disease and risk factor including current or history of IHD, TIA, stroke, coronary artery disease etc. d) Current acute venous thromboembolism which is currently being treated with an anticoagulant e) Hypertensive mother with SBP>/=160 and diastolic>/=100

Table 2: Distribution of subjects according to age group

		PPIUCD		DMPA	
		Frequency	Percent	Frequency	Percent
Age in years	< 20	7	17.5	8	20.0
	21-25	22	55.0	20	50.0
	26-30	7	17.5	8	20.0
	> 30	4	10.0	4	10.0
	Total	40	100.0	40	100.0

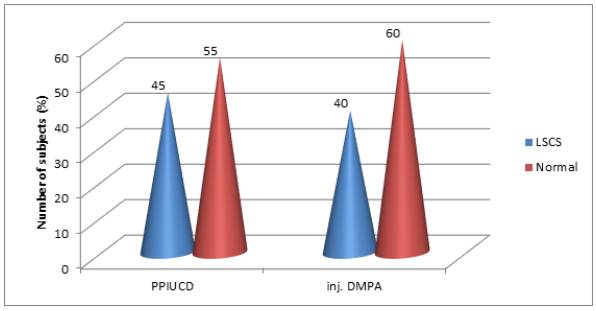

Fig. 1: Distribution of subjects according to mode of delivery

Table 3: Comparison of rate of satisfaction in both contraceptives

		PPIUCD		DMPA	
		Frequency	Percent	Frequency	Percent
Satisfied with the procedure	Yes	32	80	36	90
	No	8	20	4	10
	Total	40	100	40	100

The chi-square statistic is 1.6. The p-value is 0.35. This result is not significant at $p < 0.05$.

Table 4: Distribution showing discontinuation and acceptance rate

	First follow up		Second follow up		Third follow up	
	PPIUCD	inj. DMPA	PPIUCD	inj. DMPA	PPIUCD	inj. DMPA
Unwilling rate	5 (12.5%)	0 (0%)	4 (10.0%)	2 (5.0%)	2 (5.0%)	2 (5.0%)
Discontinuation rate (Loss to follow up)	0 (0%)	0 (0%)	3 (7.5%)	2 (5.0%)	5 (12.5%)	2 (5.0%)
Acceptance rate	35 (87.5%)	40 (100%)	33 (82.5%)	36 (90.0%)	33 (82.5%)	36 (90.0%)

Table 5: Comparison of complications in PPIUCD and DMPA users

Complications	PPIUCD (n=40)		inj. DMPA(n=40)		p
	Frequency	Percent	Frequency	Percent	
Irregular/heavy Bleeding P/V	9	22.5	23	57.5	0.01
Irregular/heavy Bleeding P/V at second follow up	6	16.2	8	20	0.001
Irregular/heavy Bleeding P/V at third follow up	2	6.1	1	2.8	0.001

Table 6: Comparison of discontinuation rate during follow up in PPIUCD and DMPA users

Unwillingness to continue /Lost to follow up	6 weeks (1st follow up)		3 months (2nd followup)		6 months (3rd follow up)	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
PPIUCD users	5	12.5	7	17.9	7	17.9
DMPA users	0	0	4	10	4	10

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