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Original Research Article

Depot-medroxy progesterone acetate as contraceptive: study at tertiary care centre

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ABSTRACT

Background: The aim was to study the acceptability, efficacy and side effects of Depot-medroxy progesterone acetate (DMPA) as contraceptive in postpartum, interval and postabortal period.
Methods: The present study was a prospective longitudinal study conducted in the department of obstetrics and gynaecology, GSVM medical college, Kanpur. Total 300 patients were counselled out of which 141 enrolled in the study during a period of January 2019 to September 2020. All reproductive age group (18-45) women who were willing to use DMPA for contraception in postpartum period, postabortal period or in interval period and also ready for follow up were included in the study. At the time of 1st dose DMPA card issued to patient where her particulars, weight, blood pressure, menstrual complaints were recorded. Date of next visit was also mentioned.
Results: Despite of benefits and proper counselling, less number of patients (47%) opted for DMPA as contraception. Acceptance (55%) and continuation rate for further doses (36.3% for 4th dose) was maximum in the postpartum period among the three groups taken in our study (postpartum, interval and postabortal). Menstrual changes were the most common reasons for discontinuation (39.7%) in all three groups. Other minor side effects may include change in weight and mood swings.
Conclusions: When patients were counselled immediately after delivery, many of them gave positive note, but actual time of application is after 6 weeks postpartum where less number of patients turned up for DMPA. There is a need to create awareness regarding the harmless side effects.

Keywords: DMPA, Contraception, Acceptability, Side effects, Postpartum period, Interval, Postabortal

INTRODUCTION

India was first country in the world to launch a family planning program, as early as 1952, with the main aim of controlling its population.[1] Over the years focus has moved from merely population stabilization to avoid closely spaced and untimely pregnancies and hence improve maternal health. Keeping this in view, long acting reversible contraception is thus the need of our society. Depot-medroxy progesterone acetate (DMPA) was introduced as Antara in the national family welfare program in year 2017. This was indeed a step in the right direction to expand contraceptive choice and make modern contraceptives accessible and affordable to women to meet their reproductive health goals. For long, cost had also been a factor in limiting DMPA usage. Introduction of DMPA as Antara free in the program has eliminated this factor. Introduction of any new contraceptive method has to meet challenges, we have tried in our study to evaluate that aspect.[2]

The major problem with contraceptive pills and few other methods is the need for regular use. So, use of long acting contraception makes people free from daily usage of contraceptive pills or any other method.

DMPA (Antara) is a progesterone only injectable given deep intra-muscular every three months (one dose=one vial of 150 mg, aqueous suspension of DMPA). It is safe, highly effective and reversible. The typical failure rate of DMPA is 0.3 per 100 women year.[1]

The aim and objective was to study the acceptability, efficacy and side effects of DMPA as contraceptive in postpartum, interval and postabortal period.

METHODS

The present study was a prospective longitudinal study conducted in the department of obstetrics and gynaecology, GSVM medical college, Kanpur. Total 300 patients were counselled out of which 141 enrolled in the study during a period of January 2019 to September 2020.

Table 1: Follow up visit protocol.

Time of visit	Action taken
At 3 months after last injection on the scheduled date	Give DMPA injection; no back up required
2 weeks earlier or up to 4 weeks later from the scheduled date (within grace period)	Give DMPA injection; no back up required
More than 4 weeks from the date of last injection	Rule out pregnancy: if not pregnant, give DMPA injection; advise back up method (e.g.condom) for next 7days

Inclusion criteria

All reproductive age group (18-45) women who were willing to use DMPA (Antara) as contraception in postpartum period, postabortal period or in interval period and also were ready for follow up were included in the study.

Exclusion criteria[2]

These wre WHO category breastfeeding woman less than six weeks postpartum blood pressure 160/100 mmHg; unexplained vaginal bleeding; breast cancer were excluded.[4]

Informed consent was taken and all the necessary indications, benefits and side effects were explained while counselling.

At the time of 1st dose DMPA card issued to patient where her particulars, weight, blood pressure, menstrual complaints were recorded. Date of next visit was also mentioned. At every visit, weight, blood pressure, menstrual complaints were recorded in DMPA card. It was frequently encountered that people don't turn up for the next dose on exact date and hence we adhered to the following protocol.[1]

Statistical analysis

Data analysis was done using SPSS 22.

RESULTS

There was no significant difference in three groups on the basis of age. Maximum number of DMPA users were between 25-30 years (Table 2).

Table 2: Distribution of patients according to age in different groups.

Age (in years)	Postpartum	Interval	Postabortal
	N (%)	N (%)	N (%)
<20	0	1 (1.3)	1 (5)
21-25	20 (45.5)	34 (44.2)	1 1(55)
26-30	22 (50)	39 (50.6)	8 (40)
>31	2 (4.5)	3 (3.9)	0
Mean age	25.92		
Std. deviation	2.549		
Max age	38		

Chi square-4.0938, p>0.05, not significant.

Table 3: Distribution of patient according to parity in different groups.

Parity	Total DMPA users	Postpartum	Interval	Postabortal
	N (%)	N (%)	N (%)	N (%)
1	49 (34.7)	13 (29.6)	31 (40.2)	05 (25)
2	69 (48.9)	27 (61.3)	31 (40.2)	11 (55)
>3	23 (16.3)	4 (9.1)	15 (19.4)	04 (20)

Chi-square=6.333, p=0.1756.

Table 4: Distribution of patients according to socioeconomic status in different groups (according to BJ Prasad scale).

Socioeconomic class	Postpartum	Interval	Postabortal
	N (%)	N (%)	N (%)
1	1 (2.3)	0	0
2	7 (15.6)	7 (9.1)	1 (5)
3	21 (47.2)	26 (33.76)	8 (40)
4	12 (27.2)	29 (37.66)	9 (45)
5	3 (6.8)	15 (19.48)	2 (10)

Chi square=10.4326, p value b/w 0.100 and 0.2500 (not significant at p<0.05).

Table 5: DMPA acceptability in various groups.

Groups	Patient's counselled (n)	Patients received 1st dose (n)	Acceptability (%)	2nd dose (n)	3rd dose (n)	4th dose (n)	Continuation rate (%)
Postpartum	80	44	55	27	19	16	36.3
Interval	170	77	45.3	40	24	18	23.3
Postabortal	50	20	40	9	5	4	20

Table 6: Reasons for drop out.

Reason for drop out	N (total no of drop out upto 4th dose)	%
Menstrual changes	56	39.7
Amennorhea	20	17
Spotting	36	22.7
Weight gain	5	3.5
BP changes	1	0.7
Mood changes	2	1.4
Switch to other method	22	15.6
Miscellaneous	17	12.1

Table 7: Analysis of effect of DMPA on weight.

Weight (in kg)	Weight at 1st dose	Weight at 2nd dose	Weight at 3rd dose	Weight at 4th dose
Mean	52.9	52.6	53.34	55.11
Standard deviation	9.89	11.8	11.00	10.04
Maximum	79	77	77	78

Chi square=27.410; p=0.000.

Table 8: Analysis of effect of DMPA on BP (in mmHg).

BP	Mean arterial BP at 1st dose	Mean arterial BP at 2nd dose	Mean arterial BP at 3rd dose	Mean arterial BP at 4th dose
Mean	86.32	86.08	86.56	87.4
Std. deviation	6.97	6.52	5.82	6.07

P=0.777 by ANOVA test.

The result was not significant at p<0.05, that is, no significant difference in three groups based on parity. Maximum DMPA users were P2, optimum method of spacing (Table 3).

No significant difference on the basis of socioeconomic classes existed between three groups. Max DMPA users were from socioeconomic classes 3 and 4 (Table 4).

Maximum acceptability was seen in postpartum group. Continuation of up to 4th dose was also maximum in the postpartum period (Table 5).

Menstrual changes constituted the most important reason for discontinuation (Table 6).

There was significant weight gain was reported by DMPA users with subsequent doses (Table 7).

There was no significant on blood pressure was seen with DMPA use (Table 8).

DISCUSSION

Evaluating progress in meeting the need for family planning required not only an assessment of overall levels and trends in contraceptive prevalance and the unmet need for family planning, but also an assessment of the range and types of contraceptive methods used. This was to be ensured that women had an access to the widest possible range of safe and effective contraceptive methods, so that they can make free and informed choice. Female sterilization and male condom were the most common contraceptive methods used worldwide.[3]

In our study, out of 300 people counselled 141 accepted DMPA as contraceptive, 47% turned up to take the first dose. This was comparable to 2008 ICMR study 51.4% accepted injectable contraceptives as mentioned in FHI, India brief.[6]

In our study, among the three groups maximum acceptability (55%) was in postpartum group. During further study up to 4th dose maximum continuation rate (36.3%) was also in the postpartum. Women were more receptive and highly motivated for contraception in the immediate postpartum period than in the interval and postabortal group. Immediate postpartum acceptability can be increased by starting the counselling process in the antenatal period itself.[4]

Continuation rate in our study was 27% which was more than the Tunician retrospective study Kheife et al 13%.[5] It was less than UNPF multicentric study 2004 41%.[6]

In our study 48.9% discontinued due to menstrual disturbances. It was more than the UNDP multicentric study where 37% reported menstrual changes. In Khan et al 2015 among the DMPA users the key reasons for discontinuation were irregular menstruation (15%), spotting (13%), heavy bleeding (29%) and amenorrhea (28%).[7] In our study after the 1st and 2nd dose predominant menstrual complaint was spotting, after 3rd dose predominant complaint was amennorhea. Percentage people developing amennorhea (from 31.9% after 1st dose to 43.8% after 3rd dose) increased with subsequent doses of DMPA.

In contrast Purwandari et al Indonesia study demonstrated that among the 351 subjects for study the result of the research showed that almost all respondents of DMPA injection experienced changes of abnormal pattern of menstruation (85.7%) which was more than our study.[8]

In our study DMPA users had weight gain during a 1 year study period. 3.5% (n=4 of the total 141 DMPA users) drop-out rate was due to weight gain.

According to United Nations population fund, India 2005 a multicentric study reported significant weight gain in 12.5% reported leading to drop out and similarly Khan et al reported significant weight gain in 4.8% of DMPA users in UP leading to discontinuation, both more than in our study.[7]

No significant change in mean arterial BP was noted among DMPA users in our study. Similar to our study a prospective study done by Taneepanichskul et al on 50 healthy women.[9] No significant differences in BP changes were recorded among DMPA users.

None of the DMPA users in the postpartum group reported DMPA effect on lactation. In the study by Patel et al 89% of primi para women were satisfied with their lactation in case of multipara.[10] 96% patient were satisfied with their lactation. None of the DMPA users reported failure of contraception in our study.

Limitation

Further studies with large sample size and longer duration of study were needed to analyse the reasons for discontinuation and adopted measures to improvise acceptability.

CONCLUSION

Despite of these benefits and proper counselling, less number of patients (47%) opted for DMPA as contraception. Acceptance (55%) and continuation rate for further doses (36.3% for 4th dose) was maximum in the postpartum period among the three groups taken in our study (postpartum, interval and postabortal). When patients were counselled immediately after delivery, many of them gave positive note, but actual time of application is after 6 weeks postpartum where less number of patients turned up for DMPA. So, inclusion of mandatory postpartum visit for health check-up and contraceptive advice or scheduling the visit for DMPA with immunization visit of infant or giving DMPA in the

immediate postpartum partum period can increase acceptance of DMPA to a greater number in postpartum period. Menstrual changes were the most common reasons for discontinuation (39.7%) in all three groups. Initial doses cause spotting but with subsequent doses amennorhea supervenes. Other minor side effects may include change in weight and mood swings.

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Ethical approval: The study was approved by the Institutional Ethics Committee

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